REMARKS

On the SECOND PART of

The Lord Biſhop of CLOGHER's

Vindication of the

Hiſtories of the Old and New Teſtament.

[PRICE TWO SHILLINGS.]

BRITISH MUSEUM

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Chiefly, with reſpect

To his *Lordſhip's interpretation* of the *Moſaic* account of the

CREATION *and* DELUGE.

IN TWO PARTS.

Part the Firſt;

Wherein his Lordſhip's explication of the Scripture account of the CREATION and FORMATION of this material World is examined, and refuted; and the *true explanation* given

By ALEXANDER CATCOTT, A. B.

With two explanatory COPPER-PLATES; one repreſenting the Cauſe and Manner of the motion of the Earth on its axis and in its orbit; the other, the State of the Earth and Air on the *ſecond day* of the *Creation*.

LONDON:

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MDCCLVI.

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On the Second Part of

The Lord Bishop of CLOGHER'S

Vindication of the Mosaic Account;

chiefly, with regard

To his Lordship's Interpretation of the Mosaic account of the

CREATION and DELUGE.

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With two explanatory Copper Plates; the first shewing the Cause and Manner of the motion of the Earth on its axis and in its orbit; the other, the Cause of the Earth and Air on the Surface of the Creation.

LONDON:

TO THE

RIGHT REVEREND

THE

LORD BISHOP

OF

CLOGHER.

MY LORD,

I Can aſſure your Lordſhip that it is with all due reſpect to the ſacred Character you bear, that I have preſumed to dedicate the following ſheets to You. As by publiſhing your *Vindication of the Hiſtories of the Old and New Teſtament*, &c. you gave the ſole occaſion to the writing and printing this Treatiſe, ſo I really knew not to whom it was ſo peculiarly due as Yourſelf: Eſpecially, as I have ſome things in particular to addreſs to You.

When I firſt read the title-page of your book, my curioſity was greatly raiſed to know the contents; as the ſubjects, propoſed to be treated on, had frequently engaged my attention. This curioſity ripened into great expectation, when I conſidered your Lordſhip, as a Chriſtian Biſhop; writing for the inſtruction of a young Noble-

man; and aſſuring your readers, in the ſecond page of your work, 'That you had ſpent much 'time in the contemplation of the Subjects, as 'well from a ſenſe of Duty, as being led thereto 'by the bent of your own natural Inclination.' All theſe conſiderations were yet heightened, when I found that You propoſed not only to examine the different opinions of ſeveral writers upon the ſubject; but alſo to confute them, and eſtabliſh your own.

And, I can aſſure your Lordſhip, I was prepared to lay down any pre-conceived notions I had formed, either from books or obſervation, provided you had proved ſuch to have been contrary to the WORD or the WORKS of GOD. But when I had carefully peruſed your Treatiſe, I muſt own, I did not find that fidelity in giving other Author's opinions, that judgment in interpreting Scripture, or that exactneſs in bringing natural Obſervations to confirm your own Sentiments, which I had expected. And as I knew not how far your Lordſhip's Station in life, your character as a Divine, Philoſopher, and Gentleman might have affected ſome kind of perſons, and been the cauſe of their continuing in errors by relying on your arguments, I thought proper to lay before the public ſome REMARKS on *ſuch parts* of your book as appeared to me *juſtly exceptionable.*

I was further prevailed upon to do this from a conſideration of the very nature and intent of your Treatiſe; which being deſigned to be a *Vindication of the Scriptures* from the objections and

attacks of infidels ought to have been written with great care and judgment, leaſt Truth ſhould ſuffer through an injudicious defence, and the cauſe of Chriſtianity be weakened, rather than ſupported, by arguments that are not valid. *In fighting the battles of the Lord* or *contending earneſtly for the Faith* we ſhould be very cautious of what weapons we make uſe of ourſelves, and eſpecially of what we deliver to our Friends, leſt by putting arms in their hands, we induce them to enter the field, and in the attack the untempered ſteel give way, and themſelves periſh, and the cauſe they ſupported ſuffer through our indiſcretion.

Such were the reaſons which induced me to *write*, and I hope I have wrote in *ſuch* a *manner*, as to give your Lordſhip no juſt cauſe of offence at my ſtile or expreſſions. I well know how difficult it is to avoid giving offence in a controverſial diſcourſe, and how apt human Nature is to imagine an affront, where none is intended. Eſpecially too, is this difficulty increaſed in the preſent age, when a feigned Charity and a falſe Zeal have uſurped the places of the true; ſo that it will be ſcarcely poſſible for an inferior to oppoſe his ſuperior, without being deemed guilty of paſſion, prejudice, or ill-manners. But I truſt, my Lord, you will have no reaſon for imagining the author of this Treatiſe to be influenced by any ſuch principles: And to cut off all real ſuſpicion of it, he has, wherever he poſſibly could, made uſe of your own words,—thoſe very expreſſions which You Yourſelf have applied to the

gentlemen you write againſt,—in thoſe places where he thought proper to remark upon You. And tho' he has been thus careful to pay You all due reſpect, yet he hopes, it will be remembered, that there is a reverence due to TRUTH, as well as to PERSONS: If therefore, where *material Truths* are concerned, he expreſſes himſelf in ſuch a manner, as one influenced by the love of Truth, would naturally ſpeak, he deſires that ſuch expreſſions may be attributed to their real motive, not to any deſigned perſonal affront, which he would not willingly ſhew any man living.

If, after a diligent peruſal of this Treatiſe, your Lordſhip ſhould apprehend that I have made any material miſtakes, and you will be ſo kind as to point out what you imagine to be ſuch, I ſhall, if I can really allow them to be ſo, readily retract my own opinion, and embrace yours; and ſhall eſteem your ſo doing to be as great a favour as You can ſhew to,

Your LORDSHIP'S *moſt obedient,*

And dutiful Servant,

BRISTOL,
Jan. 1, 1756.

The AUTHOR.

THE

PREFACE.

THE *Treatiſe, which gave occaſion to the following Remarks, being written for the inſtruction of a young Nobleman, and therefore penned in the plaineſt manner; the Author of this has likewiſe adapted his diſcourſe to the capacity of ſuch a beginner in philoſophy: And he took this method, not only on the above account; but becauſe now-a-days almoſt every one who pretends to any knowledge at all, lays claim to it in Natural Philoſophy. And Truth, he apprehends, ſhould be common, and known to all. He has therefore endeavoured to explain, in the cleareſt manner he could, the* Moſaic *account of the* Creation *and* Formation *of this world, and by this means to diſplay before his reader the true Syſtem of Natural Philoſophy.*

As He has made the Word of God *the* Standard *of his opinion, ſo the reader muſt not be ſurpriſed if he finds no implicit reſpect paid to the bare name or authority of any human writer whatever, but that the Author ſometimes aſſents with This, ſometimes with That, ſometimes agrees or diſagrees with the ſame perſon, as he judges him to be conſonant to, or diſſonant from* Scripture, Reaſon, *or* Fact. *And yet, in ſome caſes, leſt it ſhould be thought*

that he wholly deſpiſes Authority, and is deſirous of advancing Novelties, he has introduced the ſentiments of ſeveral learned and judicious writers, and choſe to ſpeak in their words rather than his own. And had a Book, juſt printed, entitled An Enquiry after Philoſophy and Theology, &c. *came to his hands, before the finiſhing of this, he ſhould have made ſome quotations from it, but he hopes the reader will ſupply this loſs by peruſing the whole, which in many reſpects he will find well worth his while.*

Some points in the following Treatiſe are more amply diſcuſſed than a bare Anſwer to the book it is written againſt required, becauſe ſuch points ſeemed to the Author to be material, are commonly received as true, tho' in reality falſe.

All that is now requeſted of the reader, is, to peruſe this Tract with the ſame candour and ingenuity with which it is written, and to take no perſon's judgment of it, but fairly and impartially to examine it himſelf.

THE

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And God ſaid, Let the Waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth, &c. explained — — p. 87,8.

And God ſaid, Let the Earth bring forth the living creature, after his kind, cattle and creeping thing, and beaſt of the earth; &c. commented on; with remarks on his Lp's compariſon of *Moſes* with *Ariſtotele*; of the *Hutchinſonians* with the *ſchool of Paracelſus* — — — p. 88—92.

And God ſaid, Let us make Man in our image, after our likeneſs, &c. *And the evening and the morning were the ſixth day.* The reaſon aſſigned why GOD formed the world *in time* or in a *gradual progreſs*, contrary to our Author's aſſertion, that no reaſon could be given for it — — p. 92—4.

Thus the Heavens and the Earth were finiſhed and all the hoſt of them. And on the ſeventh day God ended all his work which he had made; and he reſted on the ſeventh day from all his work which he had made, &c. The reaſon of the inſtitution of the *Sabbath*, in oppoſition to his Lp's account. The Syſtem of this world a ſelf-moving *machine*, under the inſpection and government of GOD. — — p. 94—100.

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ERRATA.

Page 4. Line 1. dele *on*.—p. 13. l. 27. inſtead of . place ?.—p. 26. l. 30 for *make* r. makes.—p. 34 l. 13. for αιτιμαſι r. αιτιμαſι.—p. 40. l. 28. for *ſpeaketh* r. ſhaketh.—p. 63. l. 11. for *moſt* r. moſt.—p. 64. l. 13. for *conſiantly* r. inſtantly.

REMARKS, &c.

HIS Lordſhip begins with giving an account of the ſyſtems of five Gentlemen, who have wrote concerning "the petrifaction of ſea-ſhells, now found buried in the bowels of the earth," *viz.* Dr. *Burnet*, Dr. *Woodward*, Mr. *Whiſton*, Monſieur *Buffon*, and Monſ. *le Cat:* Theſe he is pleaſed to ſtile "the *principal* perſons, who have written upon this ſubject."[a] But I humbly apprehend there are ſeveral others, who have treated the ſubject in a ſuperior manner to any of the above-mentioned writers, except Dr. *Woodward*; and there is one Author, who may be preſumed to be preferable to him; as he has undertaken to perfect what the Dr. left incompleat, and whom, from what his Lordſhip ſays p. 71. I muſt ſuppoſe he has read, and therefore am ſurprized he has taken no notice of;—the Author I mean is Mr. *Hutchinſon*. That Dr. *W.* was indebted to him for many diſcoveries in the foſſil way, is well known to thoſe who are acquainted with their hiſtories; and it appears from a *Treatiſe*,[b] which Mr. *H.* wrote when

A

[a] Page 3. [b] *Obſervations made by* J. H. *moſtly in the Year* 1706.

he was about twenty-ſix years old (before he underſtood any thing of *Hebrew*) how far he, even then, ſurpaſſed Dr. *W.* in the knowledge of the *natural ſtate of the earth.*—Why therefore ſuch an Author as this ſhould be paſſed over in ſilence, is beſt known to his Lordſhip; and it ſeems more extraordinary, if we conſider, that he has condeſcended to examine one ſyſtem (*viz.* that of Dr. *Burnet*) which appeared to him to contain ſo little ſolid truth, that it was written "rather with the pen of the *Poet*, than the *Philoſopher.*"[c] And with regard to Mr. *Whiſton*'s cometic hypotheſis, "it ſeemed to him much better calculated for the ſetting the world on fire, than overwhelming it with water."[d] And in relation to Meſſrs. *Buffon* and *le Cat*; they, themſelves, had advanced "an amazing contradiction to their general ſyſtem," and the expreſs words of Scripture.[e] So that, I humbly conceive, Mr. *Hutchinſon* could not well have been beneath his Lordſhip's notice, and therefore ought to have been conſidered.

WHETHER his Lordſhip's Subject lead him directly to examine the ſyſtems of each of the five Authors he has been pleaſed to animadvert upon,—and whether he has given a true and fair repreſentation of their ſyſtems,—and has really confuted them;—I ſhall not concern myſelf about, farther than as it relates to Dr. *Woodward*; becauſe I apprehend, that he only is conſiſtent with truth; and the reſt may be eaſily confuted.

To examine therefore our Author's Account of Dr. *Woodward*'s Syſtem. Which is thus laid down p. 6. 'But that which is peculiar in his ſyſtem, 'is this, that finding *ſea-ſhells* not only in the heart 'of mountains, and *almoſt* at the bottom of the 'deepeſt pits [the Dr. ſays to the *greateſt depth* we

[c] p. 4. [d] p. 9. [e] p. 12.

ever dig, *Nat. Hiſt.* p. 75] and alſo finding them frequently petrified and incloſed in the ſolid rock; and frequently alſo conſolidated with the ſtone itſelf, ſo as only to be diſtinguiſhed from it by the difference of colour; he ſuppoſeth that at the time of the deluge, when the fountains of the great deep were broken up, the ſurface of this earth, together with its rocks of ſtones, and mines, and minerals, *&c.* were, by *the power of the water*, and the will of God, turned into a *ſoft pulp.*' This is an aſſertion, which Dr. *Woodward* had been charged with in his life-time, and oppoſed by ſeveral for maintaining that the *Earth*, during the time of the deluge, was *diſſolved*, or as his Lordſhip is pleaſed to expreſs it *turned into a ſoft pulp*, by the *power* of *water* (the *will of* God always included, for if this act was ever done, it muſt of courſe be through that). The ſame charge has been repeated by ſome moderns ſince the Dr's. death. In which I am ſorry to find his Lordſhip of *Clogher* joining, and that too I am afraid merely upon truſt or by hear-ſay; (a fault which he ſo often and ſo juſtly blames Lord *Bolinbroke* for) ſince the Dr. himſelf has replied to this very objection, and in the following affecting and modeſt manner; 'But nothing has ever encouraged me more than 'your approbation [i. e. Sir *Robert Southwell*'s, to 'whom the Dr. writes]. And I have reaſon to think 'this an over-ballance to all the oppoſition that I have 'found from ſome, who are far from having ſhewn a 'Judgment, a Fidelity, and Exactneſs like what you 'do on every occaſion. With this encouragement 'I can eaſily bear the being *wrongfully charged* in print, 'and having objections raiſed againſt my *Nat. Hiſt.* '*of the Earth*, by ſome, as if I there ſuppoſe the ter'reſtial globe was diſſolv'd by a menſtruum; by others, 'quite contrary, as if I ſuppoſed it was diſſolved by '*the water of the deluge*; nay, and that this is one

'of the main articles of it, and the grounds on which 'I deſign to build my Theory, as they are pleaſed to 'call it, upon; when, in truth, I am ſo far from 'having ever offered any thing like that, or ſug-'geſted that either *water*, or any menſtruum, was 'the Cauſe of that Diſſolution, that I no where through-'out that whole diſcourſe, go about to aſſign *any* 'Cauſe at all.——Indeed, Sir, as you obſerve, it can-'not but be a great blemiſh caſt upon a work, to be 'laid under ſuch imputations; ſince nothing can be 'more abſurd than to imply—That *all the Solids* of the 'whole terreſtial globe ſhould be, in a ſhort time, '*diſſolved*, and reduced to their original conſtituent 'principles, by meer *water*, that is not capable of 'diſſolving a flint, which is far from being one of the 'hardeſt, in many hundreds of years.'[1]———His Lordſhip proceeds 'Which [*i. e.* the above-mention'd '*ſoft pulp*] hardening by degrees afterwards upon the 'retiring of the waters, the *ſhells*, that by the force 'of the deluge were flung upon the land along with 'their neighbouring earth, became afterwards of one 'ſubſtance with the mud to which they were united, 'and ſo hardening by degrees, were *converted into* '*ſtone* or otherwiſe, according to the nature of the 'pulp in which they were incloſed.' This ſuppoſed *converſion of ſhells into ſtone* has been maintained by ſeveral; and is indeed by his Lordſhip himſelf: But how far Dr. *W.* was from agreeing therein, let the 21ſt page of his *Nat. Hiſt. of the Earth*, declare; part of which I ſhall here tranſcribe; 'That for the metallic 'and mineral matter which ſometimes adheres to the 'ſurfaces of theſe *Shells*, or is intruded into their 'pores, and lodged in the interſtices of their fibres, '*'tis all manifeſtly* ADVENTITIOUS; the mineral par-'cles being plainly to be diſtinguiſhed from the

[1] *Natural Hiſtory of the Earth illuſtrated*, &c. Introd. p. 155.

'teſtaceous ones or the texture and ſubſtance of the 'ſhell, by good glaſſes, if not by the naked eye, '*&c. &c.*'—See alſo p. 182—4: 233, 4.

THUS I have given the reader, word for word, his *Lordſhip*'s *Account* of Dr. *W*———'s Hypotheſis concerning 'the ſea-ſhells which are now found buried in all parts of the earth'; and have examined it by the Dr's *own* words. And now, whether he might not have called the Account any *other* Author's in the world, as well as Dr. *Woodward*'s, is left to the determination of the reader.

I AM next to conſider the objections to *this* account of Dr. *W*—'s hypotheſis, *&c.* But as our Author has failed in giving a *true* account, I apprehend the objections can be of no great force. However, his Lordſhip's Station and Character in the world oblige me to conſider them.

'WHICH ſuppoſition or hypotheſis (ſays he P. 7] 'would ſerve well enough to account for *thoſe ſhells* 'that are *diſſolved* and *turned* into the *very ſubſtance* 'of the *encircling foſſil*; [If *any ſuch* there were, it would deſtroy the Dr's hypotheſis; and the whole *evidence* upon which it is built, would be loſt;] But 'will by no means ſerve to account for *thoſe ſhells*, 'which being encloſed in the bowels of the earth, 'have nevertheleſs ſtill retained their own natural 'form and ſpecific gravity; ſince it is manifeſt from 'their retaining their own natural ſhape and ſubſtance, 'that *they* were not, and of courſe that *every Thing* 'was not then *reduced into pulp.*' The Dr. is here repreſented as being of opinion, that *every Thing*, i. e. *ſhells* as well as *ſtones*, were at the deluge *reduced into a pulp*; whereas it is evident from his writings, that he maintained no ſuch thing; nay, he makes the very ſame diſtinction his Lordſhip does; and propoſes in a future work, to aſſign a plain and phyſical reaſon

why 'the *Shells*, &c. were *not diſſolved*, as well as 'the *Stone*, and other minerals,' *Nat. Hiſt. of the Earth*, P. 108 [a]. So that his Lordſhip and the Dr. are exactly of the ſame opinion; and yet his Lordſhip is ſtrenuouſly arguing againſt the Doctor.———He proceeds 'And therefore as *thoſe ſhells* had mani-'feſtly ſtrength enough in their conſtruction to re-'ſiſt ſuch a reduction, thoſe *mines* and *minerals* which 'were of a more firm, ſolid, and rigid compoſition, 'may well be ſuppoſed to have preſerved their own 'natural firmneſs alſo.' If his Lordſhip has ever look'd into the earth, and examined the ſtrata of it; he cannot but know, that all ſorts of *ſhells*,—as fair and perfect as if they were juſt brought from the ſea-ſhore,—are found *immerſed* in the *very ſubſtance* of the *hardeſt minerals*; and the *ſtone* ſo cloſely applied to the *inward*, as well as *outward*, ſurfaces of the ſhells, as to have taken off, by way of impreſſion, the *fineſt lineaments* of each; now how this could poſſibly have been effected, unleſs the ſtone was reduced to its original atoms, or *diſſolved* and *liquified*, (for the act was done *in* water, though not altogether *by* water) is to me wholly inconceivable. If any one was to ſee a quantity of ſhells incloſed in a ſolid maſs of ice, could he doubt, Whether that ice was once *fluid?* And yet the impreſſions of the ſhells in ſtone are as exquiſitely perfect as they can poſſibly be in ice. Both ſubſtances therefore were once in an *equal ſtate* of *fluidity*; and yet the *ſhells* in *neither* caſe *diſſolved*.

But what his Lordſhip ſays concerning '*mines* 'and minerals [as it is expreſſed] being of a *more* '*firm, ſolid, and rigid compoſition* than *ſhells*' is, I believe, a miſtake. When indeed we view the im-

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[a] See alſo *Nat. Hiſt. of the Earth illſtrated*, P. 94, where the ſame is expreſsly aſſerted; and is to be found in many other parts of the Dr's writings.

menſe ſtrata of the earth, as they naturally lie, or even as they are raiſed from their beds in large blocks for human uſe, and compare a *Shell* to any ſuch *Maſs of Stone*, it appears ſcarcely credible that the former ſhould exceed the latter in hardneſs and duration: but this is not making the compariſon fairly; let a *part* of ſuch ſtone be taken and moulded into the *ſhape*, *ſize*, and *thinneſs* of a ſhell; and let both be expoſed to the power and action of the light and air; and I dare ſay, the ſhell will outlaſt the ſtone: Of this I have ſeen many hundred inſtances. It is common to obſerve on the tops of rocks, which lie open to the weather, and which happen to contain in them *ſhells*, *teeth*, &c. that ſuch ſhells are frequently prominent or project from the rock; the ſtony ſubſtance having been eaten and worn away by the continual beating of the wind and rain; which is a plain proof that the *Shells* were of a *more firm*, *ſolid*, *rigid compoſition* than the *Stone*. And leſt it ſhould be objected that theſe ſhells might have ſtood out thus prominent from the rock at the diluvian ſettlement of the ſtrata, and ſo the ſtone not have been worn away ſince; let the tops of the higheſt buildings be examined; the ſtones of which having been ſawed and ſmoothed, for uſe or ornament, to an even or regular ſurface, could have no body whatever protuberant in them; and yet (if the building has ſtood for any conſiderable time or been much expoſed to the weather, and the ſtones thereof contain ſhells, *&c.*) the ſhells will appear to have out-laſted the ſtone, juſt in the ſame manner as in the above caſe: Of which alſo I have ſeen innumerable inſtances.

I SHALL now take notice of an obſervation or two of his Lordſhip's concerning the *manner* in which ſome, eſpecially the *philoſophical* parts of Scripture are written. For if what he ſays on this article be true,

all that I ſhall hereafter ſay, will be of little avail. It is difficult indeed preciſely to ſay what his opinion is, as in delivering of it he has cloſely blended *Truth* and *Falſhood* together. But one may be ſeparated fromthe other, and allowed; and the falſhood detected. The ſum of what is aſſerted on this head ſeems to be contained in the 15th page; and principally in the two following poſitions. Firſt it is ſaid, 'To ſuppoſe 'that the holy Spirit could permit any of *its* [why 'not *His*[b]? Is not the holy Spirit a *Perſon* in the God-'head?] inſpired writers to interſperſe with *its* '[*His*] revelations any *real errors* or untruths, 'either natural, hiſtorical, or geographical, would at 'leaſt be an unjuſtifiable imputation, if not blaſ-'phemous.' This is undoubtedly true. And if his Lordſhip, as he had occaſion but a few lines before to quote 2 *Tim.* iii. 16. had inſerted the former part of the verſe, *viz. All Scripture is given by inſpiration of* God, it would have appeared more conſpicuouſly true to the reader: and the contraſt between this and the next poſition I ſhall cite, more glaring and evident; whether therefore that part of the verſe was omitted with, or without deſign, is beſt known to himſelf. However the next aſſertion is this, 'Whereas it is no 'diſadvantage to the veracity of the holy Scriptures, 'to have certain opinions mentioned in them as true, 'though in themſelves *really not true*, provided ſuch 'were then the *current opinions* of thoſe times, and

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[b] This is not to be looked upon as a ſlip of the pen, but deſignedly written; for we meet with too many ſuch reflections on the *Holy Ghoſt* in his Lordſhip's treatiſe, to allow us to impute them to accident: Much leſs can we do ſo, when we conſider that he is *univerſally ſuppoſed* to be the *Author* of a book lately printed, entitled, *An Eſſay on Spirit*, &c. in which the *Holy Ghoſt* is blaſphemouſly degraded into the low rank of a *creature*. If his Lordſhip be not the author of this book, 'tis to be hoped he will clear himſelf of the charge, or elſe reply to Mr. Jones's *Full Anſwer to the Eſſay on Spirit*.

'were in thoſe ages *thought* to be *true*.' Which is ſuppoſing, that the holy Spirit of Truth would ſanctify all kinds of falſhood, and even, with regard to *natural philoſophy*, the *groſſeſt idolatries*; for *ſuch* have been the *current opinions* of *ſome* times, and in *ſome* ages *thought* to be *true*. It is aſſerted again and again throughout the whole Bible, that the object of worſhip of the antient Heathens was the *material Heavens* or ſome part or other of the ſyſtem of nature; they worſhipped either the Sun, the Moon, the Stars, the Fire, the Light, or the Air, &c.[1] and we never read that they had ever any other god or gods, but ſuch as theſe. Now the moſt likely and effectual way to deſtroy this idolatry would be, to reveal a true ſyſtem of nature, —to declare that the Heavens were *created* (and ſo not GOD)—to ſhew how, ſtep by ſtep, they were *formed* into a machine for the ſervice of man; and therefore that man ought not to be ſubſervient or pay adoration to them; and to omit declaring this, would be to leave and encourage men in their idolatries; eſpecially, if any account of nature was given in the Bible; and as ſuch is undeniably laid down, principally, in the firſt chapter of *Geneſis*; that muſt undoubtedly be true. Beſides; was not the Bible written for *this* age, as well as thoſe in which the writers of it liv'd? nay, was it not written *for*, and therefore is to continue *to*, *all* ages?—Did not the Spirit of Truth *(in whoſe ſight a thouſand years are but as one day)* very well know, that certain ſelf-ſufficient mortals would riſe up (after his revelation was *delivered* and *ſealed)* contradict his

[1] Deut. iv. 19. xvii. 3. 1 Kings xi. 5. 2 Kings xvii. 9. xxiii. 4. &c. 2 Chron. xiv. 3. 5. Job. xxxi. 26,—29. Jerem. vii. 9. 18. viii. 1. &c. xix. 4, 5. 13. xxxii. xliv. Ezek. viii. 15. 16. xxiii. 30. 57. Wiſd. xiii. 1—4.

The Writings of the *Greeks* and *Romans* abundantly teſtify the ſame, as ſeveral Authors have ſhewn at large.

word, diſpute his philoſophy, and preſume to give a ſyſtem of nature out of their own brains; when it was as much, or rather far more impracticable for them to give the true one, than it would be for a man,—who had never ſeen a watch, or any machine like it, and was utterly ignorant of the movements within,—to account for the motion of the hand, in its regular circuit, round the dial-plate *? Did not the Spirit of Truth, I ſay, know all this? and would not his goodneſs prompt him, and his veracity induce him to reveal a true Syſtem of Nature; that thoſe who had humility to own,—that God alone could give an account of his works,—and were willing to ſearch his Word for that inſtruction, ſhould there find the ineſtimable treaſure? And as God has vouchſafed to give an account, who will preſume to affirm that That account is untrue, or "accommodated to the current" tho' falſe "opinions of the times?" I am ſorry to think that his Lp. of *Clogher* (unwittingly, I hope) aſſerts thus much; and undertakes to prove the ſame from *Scripture-inſtances*; which therefore muſt be examined.

'FOR thus *Moſes*, ſays he, p. 15. when ſpeaking 'of the moon, calls it a *great light*; becauſe it appa-'rently is ſo, and was in thoſe ages thought to be 'ſuch.' *Moſes* is ſpeaking with regard to the light that ſhines in the *day*, and the light that ſhines in the

* 'Theſe great architects (ſays the Abbé *Pluche* in his *Hiſtory of the Heavens*) let us rather ſay, theſe *crawling emmets*, who (juſt) know how to put two ſtraws acroſs, and diſpoſe a few bits of wood for their own lodging, attempt, *each* after *his own* manner, to conſtruct the ſun, and to give the plan, ſections, and elevations of the univerſe. One of them looks with an eye of pity on the work of the other. Let us no longer liſten to their quarrels. Let us liſten to the inſtructions of experience. Experience contradicts them all, and ſpeaks in favour of *Moſes*.' Vol. II. p. 189, 209.

night-time upon *this earth*;[1] and whether any one body in the univerſe, or any collection of bodies, even all the fix'd ſtars, caſt a *greater light* upon this earth in the *night-time* than the *moon (walking in brightneſs*, as it is expreſſed, *Job* xxxi. 26.) I leave to every man of common ſenſe to judge.

AGAIN, (ibid.) 'In like manner the ſun, moon, 'and ſtars, are deſcribed as being *in the firmament of* 'heaven, becauſe they apparently are ſo, the human 'eye not being able to diſtinguiſh the different 'diſtances of bodies, after certain limits. So that 'although *Moſes*, when ſpeaking *more accurately*,[m] 'plainly deſcribes *the firmament of heaven* (Gen. 'i. 6, 7.) to be only that extent of atmoſphere, 'which immediately ſurrounds this earth, and divides 'the waters which are in the clouds, from the waters 'which are in the ſeas; yet as the human eye cannot 'diſtinguiſh how far this atmoſphere extends, there-'fore every thing which is ſeen through it, though, 'in reality, greatly beyond it, was then thought, 'and is even now, according to the ſpeech of the 'vulgar, commonly ſaid to be in it.' From whence it will follow, that, according to the *vulgar moſaic* [i. e. properly ſpeaking, *the Spirit of God*'s] account, the firmament of Heaven reaches no higher than the *clouds*; [which many mountains vaſtly exceed in height] and *Moſes* aſſerts, that GOD placed the ſun, moon, and ſtars, *in this* firmament, i. e. *below* the *clouds*; becauſe they are *apparently* ſo ſituated.—But do the ſun, moon, and ſtars *appear* to be *be-*

[1] Gen. i. 16, 17.

[m] As if *Moſes* could poſſibly ſpeak *more accurately* in one place than in another; he might ſpeak *more fully*, but not *more accurately*, becauſe he was directed in *all* he ſaid by *the infallible Spirit of God*.

low the clouds? Can any *child* think ſo? Does not almoſt every day's experience convince us, that the ſun is *above* the *clouds*, by the clouds paſſing *under* it, and obſtructing its light? And does not every eclipſe of the ſun ſhew, that the ſun is higher than the moon? And when the moon, in its orbit, acroſs the heavens, hides from our view the ſight of ſo many ſtars, does it not plainly prove, that the ſtars are higher than the moon?—But poſſibly it will be replied, that allowing the children of *Iſrael* ſaw the clouds paſs *under* the ſun, does it follow, that they could draw that amazingly deep concluſion, that therefore the ſun was *above* them? Are they not ſtiled the *children* of *Iſrael?* And does not this imply, that they were an *ignorant*, *childiſh*, *ſtupid* ſet of people?—Which *modern* way of arguing puts me in mind of the ſhift which even the ingenious Dr. *Burnet* was driven to, in his attempt to *expound* (I had almoſt ſaid to *expoſe*) the *Moſaic* account of the Creation and Formation; where finding, that *Moſes* maintained ſo groſs an abſurdity as,—that light was exiſtent *three days* before the *ſun* was *created*;—the Doctor (*dignitati Moſis conſulere*, to preſerve the dignity of *Moſes*) gives us this judicious explication, that *Moſes*, ſpeaking according to the capacities of the vulgar, was obliged to aſſert, that light was in being before it really was, "*ne* DEUS *videretur in tenebris operari per triduum*,"[n] that is, dear *Engliſh* Reader, "leſt GOD ſhould ſeem to work three days in the dark." And can *Chriſtian* writers thus ridicule *the people of* GOD, and then wonder, why infidels carp at the Bible, and diſbelieve the Prophets? Do they really imagine, that they are maintaining the *dignity* of the ſcriptures, when they are defending them upon this ſuppoſition? Can they produce one text to authorize their aſſertion, that *the children of Iſrael* i. e. (*Exod.* iv. 22. *Deut.*

[n] *Archæol. Phil.* Lib. II. Cap. viii.

xiv. 1.) the *adopted ſons of* God were ignorant and ſtupid beyond all nations? Do they not know that there are innumerable paſſages of ſcripture to prove the contray? I ſhall cite two for their ſakes. Firſt, *Moſes* gives this character of the *Iſraelites*, (*Deut.* iv. 1, &c.) *Now therefore hearken O Iſrael,—Behold I have taught you ſtatutes and judgments, even as the Lord my God commanded me. Keep therefore and do them, for this is* YOUR WISDOM *and* YOUR UNDERSTANDING *in the ſight of the nations, which ſhall hear all theſe ſtatutes, and ſay, Surely this great nation is a* WISE *and* UNDERSTANDING PEOPLE. *For what nation is there ſo great, who hath God ſo nigh unto them, as the Lord our God is in all things that we call upon him for? And what nation is there ſo great, that hath ſtatutes and judgments ſo righteous as all this law, which I ſet before you this day?* St. *Paul* ſpeaking of the advantages of the *Jew* above the *Gentile* (*Rom.* iii. 1. ix. 4.) ſays, *What advantage then hath the Jew? —Much every way*; CHIEFLY, *becauſe unto them were committed the* ORACLES OF GOD;—*to whom alſo pertaineth the adoption, and the glory, and the covenants, and the giving of the law, and the ſervice of God, and the promiſes; whoſe are the fathers, and of whom, as concerning the fleſh, Chriſt came.* Are people thus dignified and characterized in the Word of God, to be looked upon as the ſcum of the earth, and perſons of no underſtanding. A difference indeed muſt be made between the *antient Iſraelites* and the *Jews* in our Saviour's time; theſe *laſt* were under a judicial blindneſs and predicted infatuation; they *had corrupted the ſcriptures* and *made them of none effect*; *were blind leaders of the blind*, &c.—But with regard to the real knowledge of the antient *Iſraelites* in *natural philoſophy* (if that does not ſufficiently follow from their being *wiſe* and *learned* in the *oracles of* God, which contain a true philoſophy) I deſire the reader would conſult the third, nineteenth, and twentieth chapters of Dr. DICKINSON's *Phyſica*

vetus et vera. Part of which I ſhall here quote; being ſo very applicable to the preſent purpoſe, and containing the heads of what is diſcuſſed and proved at large. The Doctor having ſpoken of thoſe, who, through mere ignorance, endeavour to accommodate the *Moſaic* account of the Creation to the appearance of things, and their own low notions, ſays after [o] 'The ſame things 'are urged by the more cautious atheiſts; but with 'a different deſign; namely, that through *Moſes*'s 'ſides they might the more ſecretly and ſecurely 'wound religion itſelf; deride that philoſophy which 'was ſuited to the taſte of the vulgar; and deſpiſe 'GOD, who could chuſe for his *beloved* and *peculiar* '*treaſure*, a people, the moſt ignorant and ſtupid of 'all, and who were ſcarcely above the degree of brutes. 'Hence ſuch perſons draw their arguments, hence 'they ſharpen their gigantean weapons againſt GOD.—

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[o] Pag. 272. 'Eadem fere commentari videntur et urgere pruden-'tiores Athei; ſed diſſimili planè conſilio; nimirum ut Moſen eò 'ſecretiùs atque ſecuriùs arrodant atque pungant; ipſamque reli-'gionem per ejus etiam latera penitiſſimè transfigant;—et ut profuſè 'deriderent eam Philoſophiam, quam ſola inſipientium palata ſapi-'unt; ſpernerentque DEUM, qui populum rudem atque ſtolidum 'præ cunctis habet ſibi pro *Dilecto*, et *tantum non brutum* pro *peculio*. 'Hinc argumenta ſibi deſumunt, hinc arma ſua Gigantea contrà 'DEUM cudunt homines impii.——Hunc autem populum (DEO pe-'culiarem) quem ſacræ literæ de parentibus ingenioſis atque doctis 'ortum, perpetuiſque familiarum ſibi ſuccedentium memoriis ac 'diſciplinis eruditum, ſatis apertè ſignificant: quem *Moſes* ipſe va-'riis artibus inſigniter inſtructum affirmat: quemque Gentium doctæ 'recordationes etiam mathematicis artibus, et aſtronomiâ particula-'tim; cunctiſque reverà ſcientiis (quibus Græcia poſtea floruit) or-'natum memorant: cui etiam, dum viveret *Moſes*, artes mathema-'ticæ vulgares erant; et vetuſtiſſima Philoſophia benè nota; quemque 'demùm naturâ ſuâ Philoſophum eſſe docti quidam viri multas ab-'hinc ætates celebrati ſenſerunt. *Hunc* inquam *Populum* jam a non-'nullis hominibus, nullo pudoris aut juſtitiæ fræno coercitis, omni-'bus infamiæ ſimul et inſcitiæ nominibus oneratum eſſe, ſuperaſſet 'omnem fidem, niſi palàm ſcriptis atque ſermonibus, extra omnem 'dubitationem poſitum fuiſſet?'

'That this people,—thus peculiarly beloved of GOD, '—whom the ſacred Scriptures repreſent as ſprung 'from ingenious and learned anceſtors;—and to have 'been continually inſtructed in the records and doc-'trines of their race,—whom *Moſes* declares to have 'been remarkably ſkill'd in various arts,—and whom 'the writings of learned Heathens mention as fa-'mous for the mathematical ſciences; for aſtrono-'my in particular; and indeed for all thoſe arts, in 'which *Greece* afterwards flouriſhed;—among whom, 'even in the time of *Moſes*, the Mathematics were 'in common uſe, and the moſt antient Philoſophy 'well known;—and whom ſeveral learned men have 'formerly celebrated as being *Philoſophers by nature*. '———That this People, I ſay, ſhould *now*, by ſome 'men who ſeem to have loſt all ſenſe of ſhame and 'common juſtice, be loaded by the names of the '*moſt infamous and ignorant*, would ſurpaſs all credit, 'did not their *publick writings* and *open diſcourſes* put 'it out of all doubt.' [p] From what has been ſaid then concerning the *Wiſdom* of the children of Iſrael, we may now perhaps be induced to allow them to have been as wiſe a people as ourſelves. And let us ſee whether the inſpired writers did not extend *the firmament of Heaven* to its *real* height. Firſt, it is ſaid *Gen.* 1. 17. GOD *ſet them* [*the Sun, Moon,* and *Stars*] *in the Firmament of Heaven.* The *Firmament* therefore is as *high* as the *Stars.* And of the *Stars* it is thus with wonder ſpoken, *Job* xxii. 12. *Behold the height of the Stars, how high they are!* But more exſpreſsly of

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[p] *Joſephus,* (whoſe teſtimony with ſome may be of great weight) ſays, 'that GOD granted *pious men* in the *firſt ages* of the world 'long lives, not only as a reward of their virtue, but for the *uſefulneſs* of thoſe things which they ſtudied, to wit, *Aſtronomy* and *Geometry*; that by living thus long, they might bring thoſe Sciences to the greater perfection and certainty." *Lib.* i. Chap. 4. *Ant. Jud.*

the *Heaven* itſelf, *Prov.* xxv. 3. *The* Heaven *for* height, *is unſearchable.* Jerem. xxxi. 37. *Thus ſaith the Lord,* If *the Heaven above* can *be* meaſured,—*then will I caſt off all the ſeed of Iſrael.* Nay, the infinite mercy of God to fallen man is compared to the Height of Heaven, Pſalm ciii. 11. *As the Heaven is high* [marg. *according to the hight of Heaven*] *above the earth; ſo great is his mercy toward them that fear him.* Or, what is more, his almighty power and infinite perfections are pointed out by this ſimilitude, *Job* xi. 7. *Canſt thou by ſearching find out God? Canſt thou find out the Almighty unto Perfection? It is as* high *as* Heaven, *what canſt thou do? deeper than Hell, what canſt thou know?* Will any *modern* Philoſopher preſume to ſpeak in ſublimer terms of the *Height* of Heaven? If he does, or rather if he *can*, he muſt ſo far exceed the *Truth*.

Another inſtance which his Lordſhip brings [q] as a proof of Scripture's conforming to the *appearance* of things, is "The fact related in the book of *Joſhua*, where it is ſaid, that *the ſun ſtood ſtill.*" But he ſhould have mentioned the *place* or *that part* of the earth *on* which it is ſaid *the ſun ſtood*, viz. *upon Gibeon, and the moon in the valley of Ajalon.* Now certainly, even according to the *appearance* of things, neither the Sun nor the Moon, i. e. the *bodies* of them, ſtood in theſe places. According to the appearance of things, it was the *Light* proceeding from each, that ſtood there. And it has been proved by ſeveral writers, that the word here tranſlated *Sun* means the *Light iſſuing from the ſun* (which therefore, as it is afterwards related, might have *ſtood in the midſt of Heaven* as well as *upon Earth*; but the *body* of the ſun could not have been, or even *ſeemed* to have been in both theſe places at once). I ſhall here recommend to the reader, a Treatiſe lately publiſhed, in which not only this point is

[q] Page 16.

proved, but alſo all the arguments uſually brought againſt Scripture's ſpeaking philoſophically true, are anſwered, and many poſitive arguments laid down, by which it muſt undeniably follow, that the Bible, with regard to *natural* ſubjects, is *ſtrictly* and *literally true*. The Treatiſe is entitled, *Philoſophia Sacra*, or *the Principles of Natural Philoſophy, extracted from Divine Revelation, by* S. PIKE. I mention this book chiefly, becauſe it is ſhort, written in Engliſh, with great perſpicuity, and purpoſely adapted to the meaneſt capacity; and what is remarkable, the author was, not long before [r], as much averſe, as any man at preſent can be, from thinking that *the Scriptures were wrote philoſophically true*. But after the *immenſe*, tho' *worthy* and *juſt pains*, (ſhall I ſay *pleaſure?*) of reading the Bible throughout,—extracting all the paſſages relating to natural Philoſophy,—and comparing them together, he found the agreeable truth, that Scripture was as juſt in its deſcriptions of *natural* as of *ſpiritual* things.

OUR Author having thus, by the above remarkable obſervations, 'cleared the way;' proceeds now 'to 'vindicate the account which *Moſes* giveth of the 'Creation and Deluge; and to endeavour to reconcile 'it with *Reaſon* and *Philoſophy*.' [s] Which attempt ſurprizes me much; as the ſole tendency of the abovementioned obſervations is to prove, that *Moſes* wrote neither agreeable to Reaſon nor Philoſophy, but receeded from both, in order to adapt his account to the *mere appearance* of things. But the latter part of the undertaking is ſomewhat more ſtrange, viz. 'to endeavour to reconcile *the Word of* GOD with '*Reaſon* and *Philoſophy*.' I apprehend, the attempt

[r] See the *Preface*, and *Chap.* 1ſt. [s] Page 42.

ſhould have been directly the reverſe, *viz.*—to reconcile *Reaſon* and *Philoſophy* to *the Word of* GOD. '*Taxandi ſunt*, ſays OLEASTER, *qui potius volunt ſacram Scripturam Philoſophiæ regulis ſubdere, quam, ut magis decet, Philoſophiam tanquam ancillam, illi deſervire.*' i. e, *They are to be blamed, who would ſubject the Sacred Writings to the rules of Philoſophy, and not, as it would be more becoming, make Philoſophy ſubſervient to Scripture, as her hand-maid.* For, GOD muſt be true, and what He ſays, be the *ſtandard* of *Truth:* but human Reaſon and human Philoſophy (which his Lp. muſt here mean) may, I will venture to affirm, ever did, and ever will lead thoſe into error who truſt to them for inſtruction in things infinitely beyond their reach; and ſuch undeniably muſt the *manner* in which GOD *made* the world, and the *manner* in which he *deſtroyed* it at the flood, and *ré-formed* it after, be allowed to be. And tho' there are evident marks in this earth, that the Scripture-account of the *Ré-formation* of it after the flood, and ſo of its firſt formation, is true; yet theſe marks could never have been known, at leaſt applied, or this Philoſophy have been diſcovered, unleſs the *Principles* of it had been *revealed.* Scripture-truths, like all other, when once known or fairly declared, are eaſily enough to be apprehended, and by every unprejudiced mind will be readily aſſented to; but the difficulty is, an *impoſſibility*, I will ſay, it is to *diſcover* them *without* a *Revealer.* And if ſome late writers in their diſputes with the Deiſts had but defined what *Reaſon* was,—and made a diſtinction between *Reaſon*, as *enlightened by Chriſtianity* (as every man's reaſon, who is born in a chriſtian country muſt be) and the ſtate it would have been in, had it been left to its own *natural* workings;—the deiſtical Infidel would not have had one word to have ſaid for himſelf. '*Reaſon*, (ſay two judicious writers) is but the *ca-*
' *pacity* of the Soul to *know* [or, the faculty in the hu-

man mind of viewing and comparing ideas, and after due conſideration of the ſubject, giving judgment; which is the regular proceſs to *knowledge*]. 'It is no more 'in the ſoul than the *eye* in the body; hath no light 'in itſelf; but the light of Revelation [and that only] is 'ſufficient to guide it into all truth.' The unhappy Infidel thinks otherwiſe; and, by imagining that his Reaſon is altogether ſufficient for this purpoſe, refuſes the aſſiſtance of Revelation as unneceſſary, or looks upon it as an infringement, an enſlavement of the powers of the human ſoul: As if, to *think* with *Wiſdom ſupreme*, or *concieve* as *Truth itſelf* directs, were *folly* or *ſlavery*. No; Revelation alone enlarges the ſphere of human knowledge; and when the mind preſumes to range without this guide, it may *imagine*, but it cannot *reaſon*.

Of this his Lp. unfortunately gives an inſtance at his very ſetting out, *viz.* in his interpretation of the 1ſt verſe in *Geneſis*, where commenting upon the word *Heaven*, he 'ſuppoſes that by it *Moſes* means *only* that 'atmoſphere or *firmament of air* which ſurroundeth 'this globe of earth,'[t] but does not include in his account the *creation* of the *fixed Stars*; which he ſays (page 67) 'were created millions of ages *before* this 'planetary ſyſtem.'————I have already proved that the *Firmament of Heaven* reaches *to* and even *beyond* the *fixed Stars*, and of courſe that the *ſtars* are *in it*. And that *they* were created *at the ſame time* with the *Heaven* and *Earth* which we inhabit, is evident from *Gen.* ii. 1. and alſo from the *fourth Commandment*, *For in ſix days the Lord made Heaven and Earth, the Sea, and* ALL THAT IN THEM IS.—His Lp. having animadverted on *Meſſrs. Whiſton*, *Leibnitz*, and *Buffon* for aſſerting that this world was *not created* out of nothing, but of ſome præ-exiſtent matter or other,[u]—

[t] Page 43. [u] Page 45.

ſays 'But why, ſince *Moſes* is entirely ſilent about 'this affair, theſe learned perſons will not allow this 'world to have been created out of nothing, I cannot 'conceive.—This I only mention to ſhew how far an '*indulged Imagination* will carry men of learning, when 'they have any *favourite ſcheme* to purſue.' But ſurely in an affair, in which *Moſes* is not only not ſilent, but ſpeaketh very expreſsly and clearly, it is a *far greater* inſtance of an *indulged Imagination* to aſſert the contrary; and I am afraid falls under the guilt of that crime,—ſo ill becoming man, and ſo very odious in the ſight of GOD,—of being *wiſe in our own conceits*, and preſuming *to think* not only ABOVE, but CONTRARY *to that which is written.*

I SHALL here take notice of another opinionof our author, nearly bordering upon the former, viz. *That the Planets and fixed Stars were made for peculiar inhabitants of their own, and not principally for the ſervice of the earth.* His Lordſhip cannot be ignorant of the miſchievous effects that have enſued to Chriſtianity from the aſſertion of a *plurality of worlds*, and what handle the Deiſts have made thereof. And tho' the truth of the fact can be known only from the Word or declaration of GOD, yet he has given us no more than his *own* and a few *imaginations.* Scripture and Reaſon, i. e. the *Reaſon of Scripture* (which alone muſt be admitted in this caſe) ſpeaks the contrary. For,—*Firſt*,—*Gen.* i. 17. It is ſaid, that GOD *ſet the ſtars, &c. in the firmament of heaven to* give light *upon the* earth, LEAIR, * to *act the part, perform the offices of light* upon the Earth; which are great, many, uſeful, and abſolutely neceſſary for the being and well-being of its inhabitants. Some of theſe uſes are mentioned in this

* In ſubſtituting the *Roman* characters for the *Hebrew*, I ſhall follow the method laid down by Dr. ROBERTSON in his *true and antient manner of reading* HEBREW *without Points.*

chapter; *the Lights in the firmament of heaven* were *there* placed,—*to rule over the day and over the night*, —*to divide the light from the darkneſs*,—and *to be for ſigns, and for ſeaſons, and for days, and for* YEARS.—[I may here juſt obſerve; as his Lp. allows (p. 67.) that it is impoſſible to 'aſcertain the *annual* revoluti-'ons of the earth round the ſun,' or certify the time when a *year* is completed, without due obſervance of the 'fixed Stars,' it will hence follow (if that need now be proved) that the *Iſraelites* were accurate aſtronomers; ſince they were well acquainted with the *ſucceſſive revolutions of the earth round the ſun*, and are here directed to obſerve the motions of the heavenly bodies and their influences.]—Again, we read *Deut.* xxxiii. 14. *of the precious fruits brought forth by* [the light of] *the ſun, and the precious things thruſt forth by* [the light of] *the moon.* So that *Light* is the great cauſe of *vegetation.* And were this a proper place I would undertake to prove, that it is the cauſe of *gravitation*, and bears a principal part in turning the earth in its *diurnal*, and directing it in its *annual* revolutions; and moreover, that were it not for the *light* which iſſues from the *fixed ſtars*, this earth would ſoon be *immoveable.* All which I ſhall occaſionally treat of in the following work. The *light* of the *heavenly bodies* then being thus vaſtly beneficial to the *earth*, and as we have no intimation in Scripture, that *they* or *it* were intended for any other body, not even for *themſelves*, ſo we may conclude, that they were *both* made for the ſervice of the earth and its inhabitants. Which may be further ſtrengthned from a conſideration that the *lights* of the celeſtial bodies have been *ſtop'd* or *ſupernaturally influenced* in their directions, for the ſake of things that were done upon earth *only*; as for inſtance, *at the command of* Joſhua, the *light* of the *moon* (which of all the heavenly bodies hath been thought the moſt probable to have been in-

habited) was retarded, and the ſtream which iſſues from that luminary to the earth *ſtayed in the midſt of heaven*; which doubtleſs, were there any inhabitants in the moon, muſt greatly have affected them; and why they ſhould be thus amaſingly aſtoniſhed for things no way concerning them, is altogether inconceivable. The ſame may be ſaid of the fact related *Jud.* v. 20. *viz. That the ſtars* [i. e. the fluxes of light from the ſtars] *in their courſes* [MAMSALUTAM in their *ſtrikings*, *pereuſſions*, or *impulſes*; from SALL to *ſtrike down*, *impel downward*, &c.] *fought againſt* Siſera; which text, by the way, ſhews the great power and influence the ſtellar light has upon the earth; and indicates that its force, at this time, was increaſed in ſome ſupernatural manner.——*Secondly*,—It is ſuppoſed by thoſe who maintain a plurality of worlds, that the fixed ſtars were created, as his Lp. ſays, 'millions of ages *before* this planetary Syſtem.' I have proved above, that they were created at the *ſame time* the *earth* was, and therefore in all probability for its uſe alone.—*Thirdly*,—As the earth and all the heavenly hoſt were created and formed but *juſt before* man; and then man placed in the world, as the Lord and Maſter of it; it clearly follows, that the *whole* was intended only as a *grand palace*, fitly furniſhed and richly decorated, for the future inhabitant of the earth, MAN; MAN! that exalted creature;—at whoſe formation the Perſons in the Deity made, as it were, a pauſe in their work, and *conſulted*, (*Gen.* i. 26.); *who was formed in the image of* GOD *and after the divine likeneſs*, i. e. endowed with properties and faculties ſimilar to thoſe which are in JEHOVAH himſelf; whoſe very being and form GOD himſelf once aſſumed, and now retains; who will ſoon be equal in perfection to the Angels; and even at preſent is in one reſpect, viz. in *Eternity forward*, not only equal to

them, but to his GREAT CREATORS.[x] ——*Fourthly*, ——Let us conſider *who* the Author of this world is, namely, GOD, JEHOVAH HIMSELF, BEING ITSELF, who alone, and with a word's ſpeaking only, gave exiſtence to every thing in the univerſe; and could, with the ſame eaſe that he made it of its preſent magnitude, have enlarged its bulk to any ſize whatever. The extent of the world therefore is not great in the

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[x] I ſay *Creators*, for the word in the original in *Eccleſ.* xii. 1. is in the *plural* number, *Remember now thy* CREATORS [בוראיך]. And it is certain from the expreſſion *let* US *make man*, that *more than one*, or rather that *each* Perſon in the Godhead, were concerned in the formation of man.

I cannot help inſerting upon the ſubject of the *Univerſe's being made for the ſervice of man only*, what the ingenious Mr. *Baker* ſays in his *Reflections upon Learning*, p. 108. 'In this vaſt compaſs [of 'the Univerſe, according to *Hugenius*, who ſuppoſed that if a 'bullet were ſhot from a gun, and could always retain the ſame 'velocity it had when firſt diſcharged, it would reach the neareſt 'of the fixt ſtars in about *ſeven hundred years*] our Aſtronomers 'have diſcovered new worlds (like that ſanguine Conqueror who 'was ſeeking out *new* worlds before the old one was *half-ſubdued*); 'every planet muſt be a world, and every ſtar muſt have its planets. '—Theſe world-mongers are always objecting the improbability of 'GOD's framing ſo many vaſt and glorious bodies, only for the ſake 'of this earth, ſo inconſiderable a portion of the whole. Among 'the reſt, *Hugenius*, who in one place makes this objection, in an- 'other part of his book (*Coſmotheor*, p. 33) as if he had forgot 'himſelf, thinks it enough to ſay, that GOD raiſed this mighty 'frame of things, that he might contemplate and delight himſelf 'thereby; and were there no other reaſon, we ought to acquieſce 'in this.—But they that argue thus, ſeem to meaſure things by 'their own bulk, which is a falſe way of reaſoning. There is *more 'beauty* and *contrivance* in the ſtructure of a *human* body, than 'there is in the glorious body of the *Sun*; and *more perfection* in 'one *rational immaterial Soul*, than in the *whole maſs of matter*, be 'it never ſo bulky. There cannot then be any abſurdity in 'ſaying, That *all things were created for the ſake of this inferior 'world, and the inhabitants thereof*; and they that have ſuch 'mean thoughts of it, ſeem not to have conſidered WHO it was 'that DIED TO REDEEM IT. Let them meaſure the world by 'THAT STANDARD; and they cannot under-value it any longer, 'without ſome reproach to INFINITE WISDOM.'

ſight of JEHOVAH. And if it is *the glory of a king to give as a king*, who ſhall confine or contract the beneficence of *the King of Kings?* 'Tis not what man deſerves, but what GOD may be pleaſed to give, That is to be conſidered in this caſe. The world indeed, in reſpect of man, is truly grand and magnificent; but when we conſider the Author, we muſt not ſay that it is too great for GOODNESS ITSELF, and POWER INFINITE to beſtow upon his *own offspring*; eſpecially when we conſider that there is a *world*, prepared for us in *another* place, as far ſuperior to this, in every kind of perfection, as the *ſubſtance* exceeds the *ſhadow*, *eternity* a *moment*.[y]——*Laſtly*,—As it is certain, that, when the *probationary* ſtate of man ſhall be completed, this whole viſible ſyſtem will be deſtroyed,—*the ſtars will fall from heaven*; *the heavens themſelves be rolled together as a ſcroll*; *the earth be burnt up*; and *the place of each be no more found*;[z]—I ſay, ſince all theſe things ſhall be thus diſſolved and annihilated, when the mortal ſtate of man is ended; they certainly were alone made *for*, as they are now continued in being only *during*, that ſtate.

IT appearing thus evident from Scripture, that this whole viſible ſyſtem was made for the ſervice of man alone; and therefore that the planets and fixed ſtars have no peculiar inhabitants of their own: And tho' when an article is once proved from the word of GOD, not all the reaſons [i. e. the *imaginations*] of the moſt

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[y] As a *Chriſtian*, I am ſorry to find his Lp. ſuch a *narrow-minded mortal* (his own expreſſion p. 195.) as to be content with *one* of the *fixed ſtars* for his habitation after this life, and to preſume to call *them* the *manſions of the Father*, (p. 194.) 'And, if *every one* of 'theſe *ſtars* may reaſonably be ſuppoſed to have a planetary ſyſtem 'revolving about itſelf, well might our Saviour ſay, that *in his Fa-* 'ther's *houſe are many manſions.*'

[z] Pſalm cii. 25, 26. Iſa. xiii. 9, 10. xxxiv. 4. li. 6. Mat. v. 18. xxiv. 35. 2 Cor. iv. 18. 2 Pet. iii. 10. Rev. x. 6. xx. 11.

reaſoning men in the world ſhould be of any avail to induce us to believe the contrary; yet as the opinion under conſideration is very prevalent, and his Lp. has produced ſome arguments in defence of it; it may be expected that I ſhould take notice of them. *Firſt*, then; the *immenſe*, *the infinite*, the *unmeaſurable diſtance of the ſtars from the earth*, is urged as a proof that they can bear no relation to it, can have little or no influence upon it; and *therefore were not made only for man.*[a] But what real ſervice they are of, how nearly each is united by the cloſe and powerful actions of their lights, I have ſhewn already. But how does his Lp. know, that the ſtars are at the immenſe diſtance he *ſuppoſes?* The calculation depends upon the *known real* diſtance of one of the planets from the ſun; ſuppoſe that of the earth; which has been generally made the ſtandard of the reckoning. This diſtance he takes for granted, and does not attempt to prove, but refers us to the aſtronomers in general, p. 173, 177. and yet p. 184, aſſerts, 'that as we are not very certain of 'the *real* diſtance of the ſun from *any one* planet, a '*ſmall* miſtake in the firſt computation will make a '*very large* one afterwards.' If this be true in relation to the diſtance of the planet *Saturn* (of which his Lp. is there ſpeaking) what ſhall we ſay when ſuch weak and doubtful reaſoning is applied to aſcertain the diſtance of the *fixed Stars*, which are ſuppoſed to be almoſt *infinitely* beyond the orbit of *Saturn?* But let us ſee how exact philoſophers have been in ſettling the *foundation* of their calculation, viz. *the diſtance of the Earth from the Sun.* The difference between the antient aſtronomers on this head, (which may be ſeen in *Horrox*'s *opera poſthuma*, p. 164) I ſhall not mention, becauſe it will probably be objected, that their inſtruments were

[a] Page 188, 192.

not ſo good, and therefore their obſervations could not be ſo accurate, as the modern: however I cannot help remarking, that they are in general far nearer the truth than the modern; as will appear, I truſt, if the reader will give himſelf the trouble of comparing them with the method I ſhall preſently lay down for calculating the diſtance of the earth from the ſun to a ſatisfactory degree of certainty. And here alſo I muſt obſerve that if the moderns object to the calculations of the antients on account of the imperfections of their inſtruments, I ſhould be glad to know *when* or by what *means* they will aſſure themſelves, that their inſtruments are ſufficiently perfect to take the obſervations accurately; ſure I am, that, from the ſurprizing diſagreement between themſelves, they have no reaſon to think they are ſo at preſent, or that they can poſſibly aſcertain the diſtance by the uſual method of attempting to diſcover *the parrallax of the ſun.* But let us ſee how accurate and exact the beſt of the lateſt philoſophers have been in ſettling the *diſtance of the earth from the ſun.* *Mon. de la Hire* ſuppoſes the parrallax of the ſun (or the angle which the ſemi-diameter of the earth ſubtends at the ſun) to be 6″, and therefore the diſtance to be 34377 ſemi-diameters of the earth.[b] Now ſuppoſing the ſemi-diameter of the earth to be, according to the moſt allowed obſervations, 3983 *Engliſh* miles, its diſtance from the ſun, according to *de la Hire*, may be ſaid to be in round numbers *an hundred thirty ſix* millions of miles. *Sir Iſaac Newton* at one time make the diſtance of the earth from the ſun to be *eighty one* millions of miles[c]; and at another, *ſeventy* millions[d].

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[b] *Chambers's Dictionary* under the word *Sun.*

[c] Vide *his Theory of the Moon* publiſhed in Dr. *Gregory's Aſtronomy*, p. 571, and *Whiſton's Theory of the Earth, Lem. p.* 34.

[d] *Opticks*, p. 325.

—Dr. *Clarke* [e] (and Mr. *W. Whiſton* [f] at one time) computes the diſtance at *fifty four* millions.—But Mr. *Baxter*, in his *Annotation* at the end of *Matho*, has undertaken to prove, upon the *Newtonian* principles of philoſophy, that it is impoſſible the diſtance ſhould be more than 8000 ſemi-diameters of the earth, i. e. *thirty one* millions of miles; and ſhews that it is far more probable it is leſs than greater.—Dr. *Keill*, [g] after having demonſtrated the inſufficiency of ſeveral methods of diſcovering the diſtance of the earth from the ſun, by obſerving the parallax, concludes that nothing more could be collected from them, but that the earth is at the diſtance of 7000 ſemi-diameters or *twenty ſeven* millions of miles from the ſun.—Mr. *Baxter* (in the above-cited place) has an ingenious method of aſcertaining the diſtance, founded upon knowing how far the earth moves in a minute, an hour, or any ſtated time; and he takes the ſuppoſition of Dr. *Halley*, who, in his obſervations of Mercury in the ſun at St. Helena, ſays, 'that the annual motion of the 'earth is ſo *exceeding ſwift*, as far to exceed that of a 'bullet ſhot out of a cannon, and to be after the rate 'of 3 engliſh miles and half in a ſecond, which is 210 'miles in a minute.' Now ſuppoſing the earth to move thus *exceeding ſwift*, the number of miles in its annual orbit, or in the radius of ſuch an orbit will not be near ſo great as in the laſt mentioned caſe. The number of minutes in a year are 525969, which multiplied by 210, gives 110,453,490 the number of miles in the circumference of the annual orbit. But 36,817,830 (the third of the laſt number) is the diameter of the magnus orbis; which being divided by 2, gives the ſemi-diameter 18,408,915 or (in round

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[e] *Clarke's Rohault*, Part. ii. Chap. 12.

[f] *Harris's Lexicon*, Vol. 1. under the word *Earth*.

[g] *Introduc. ad Aſtronomiam*, p. 345.

numbers) *eighteen* millions of miles, *the diſtance of the earth from the ſun.*—*Rohault* [h] places the diſtance at about *five* millions. *Varenius* [i] at *four*.—But the moſt certain method of calculating that I have hitherto ſeen, and which brings the matter to a very great degree of nicety is, That laid down in a Treatiſe entitled, *Experimental Philoſophy aſſerted and defended, &c.* (p. 58) and is ſomewhat analogous to the method purſued by Mr. *Baxter*. It proceeds upon this ſuppoſition that the earth turns round, as it goes forward, in the ſame manner as a coach-wheel, a bowl, or a ſurveying-wheel doth; and as the agent which turns the earth upon its axis, is the ſame which carries it in its annual orbit (of which hereafter) and is applied to every part, ſo the meaſurement and computation depending upon this rule will be as exact and juſt as can poſſibly be deſired. Now the circumference of the earth being 23910 miles, this multiplied by 365 (the number of revolutions the earth makes in a year) gives 8,727,150 miles the circumference of the annual orbit or the length of the circular line the earth makes in the year; this divided by 6, gives for the ſemi-diameter or radius of the annual orbit 1,454,525 miles, or in round numbers *one million* and a *half* of miles, which muſt be *the diſtance of the earth from the ſun.*[k]——— This brings the ſyſtem of the univerſe into a tolerable compaſs, and contracts the madneſs of imagination.

Again; our author ſays p. 187. 'But here it ought 'to be remarked, that altho' the brightneſs of the 'fixed ſtars is encreaſed by a teleſcope, whereby they

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[h] *Tractatus Phyſicus*, Pars ii. C. xii.

[i] *Geograph. General.* edit. *Iſaaco Newtono*, p. 39.

[k] The Earth indeed, and probably the reſt of the planets, are carried in Ellipſes; and ſo, are ſometimes nearer to, ſometimes farther from, the ſun; but this difference is allowed to be but trifling; and taking the *mean* diſtance, as I have done, may be eſteemed as nothing.

' are rendered more viſible, yet their ſize is not; which ' is a *great proof* of the *immenſity* of their diſtance: and ' is likewiſe a proof that they all ſhine with an *original* ' light of their *own*, and not with a borrowed light, ' as do the planets.' How this proves the immenſity of their diſtance I ſee not; for 'tis only ſuppoſing that they are of *leſs* bulk, and placed *nearer*; and the ſame effect will enſue. But I apprehend that it is impoſſible to diſcover the diameter of any very luminous body; eſpecially placed at the diſtance in the air the fixed ſtars are; for the efflux or profuſion of light from around them, renders it impracticable to aſcertain their *real bulks*; tho' the more you can contract this diſperſed light, the brighter and more vivid will they appear; becauſe you then view them by their *purer* light; as is the caſe of the fixed ſtars when ſeen thro' a good teleſcope. But the difficulty is to be certain, that the glaſs cuts off *no more* than the *diſperſed light*, and that the obſervator ſees *juſt that quantity* which iſſues from *the circumference of the orb* of the ſtar; which I will venture to affirm no aſtronomer will be able to judge of, 'till he has once been upon a fixed ſtar, and can come back to this earth, and review his object.[1]—

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[1] I ſhall inſert here a few lines from Mr. INNES's *Miſcell. Letters on ſeveral ſubjects in Philoſophy and Aſtronomy*, p. 58. ' It is obſerv- ' able that the late aſtronomers having ſtrongly magnified the *bulk* ' and *diſtances* of the ſtars, and as much leſſened their apparent ' bigneſs; or we could not make each Star a Sun,—eſpecially ſuch ' as are in the *milky-way*, where the ſuns are very thick ſet. About ' 60 years ago they made the ſun at 128 ſemi-diameters of the ' earth from us; now *Caſſini* and *Hugens* reckon 22,000.—Stars in ' thoſe days were but 2000 times as far off as the ſun; now *Syrius* ' is 27000 times as far off: *Syrius*, by *Tycho*, was computed at 3 ' minutes diameter, by others 2 minutes; and *Galileo* but 5 ſe- ' conds; the moderns allow it no apparent diameter, only ſee it ' as a lucid ſpeck or point. Glaſſes of 6 or 8 feet give it a con- ' ſiderable diameter; glaſſes between 20 and 60 feet ſee it with a ' diameter 7 or 10 ſeconds; but glaſſes of 100 feet ſee it as a ſpeck. ' —I do not doubt but at laſt by lengthening the glaſſes they may re-

Neither can I ſee how this phænomenon proves 'that 'the fixed ſtars all ſhine with an *original light* of their 'own;' for reflected light, provided it proceeds from a finely poliſhed, or hard, compact body, ſuch as chryſtal, glaſs, *&c.* muſt have the ſame effect; and 'tis not improbable, that the fixed ſtars are only ſo many *ſpecula*, placed at ſuch a diſtance in the heavens, where the motion of the light and air [the former iſſuing from the ſun; the latter ruſhing to it] begins to be languid, that by the light reflected from theſe ſpecula a briſk circulation may be preſerved and the *expanſive* power of the air kept up; of which hereafter. And, that the fixed ſtars do not ſhine with an original light, ſeems to me probable from their very *brightneſs*; for were they original foci of light I ſhould imagine they would appear of a *duſky* or *reddiſh* colour, as the

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'duce the *Sun* to a *ſpeck* too.——That teleſcopes do not leſſen the '*diameters* of the Sun and Moon [as they do *thoſe* of the *Stars*] is, 'that their light is briſk and not weak; but that long teleſcopes do 'ſcatter and yet farther leſſen weak light, was obſerved by the '*French* Academy when the Great Comet appeared in 1680. For 'after the head of the comet diſappeared to the eye, it was ſeen by 'teleſcopes; by one of 4 feet, plain; but by one of 20 feet, con'fuſedly and dimly. Nay, the tail of the comet was ſeen by the 'naked eye, long after it could not be ſeen thro' a teleſcope. This 'ſeems a little odd, that the tail and not the head ſhould be ſeen 'lateſt by the eye, and the head and not the tail by the glaſſes. 'By this we muſt not conclude the eye was deceived in ſeeing the 'tail, but that the eye is fitter to ſee a faint light, and takes into 'view a larger ſcope of the heavens.—The tail of the comet could 'not be ſeen thro' the glaſſes, becauſe of the paucity and weakneſs 'of the rays; nor the head by the eye, becauſe of the ſmallneſs of 'it, and rays from a great ſcope of the heavens confuſed it.—And 'farther, I muſt ſay that the eye is fitter to repreſent the true mag'nitude, if freed from the glaring light; which the moſt ingenious '*Sir Iſaac Newton* was convinced of, and therefore propoſed re'flecting glaſſes for this purpoſe. But as to teleſcopes, if the object 'be *near*, they *magnify*; and if at *a vaſt diſtance* they repreſent 'objects *too little*, and will *never anſwer* to judge of the *magnitudes* '*of the ſtars*.

ſun does at riſing or ſetting, or any common fire in the night-time.

Page 192. 'Shall we not then conclude, that thoſe 'ſtars, which ſhine like our ſun, with an unborrow'd 'light from any original but their great Creator, were 'formed for the uſe of ſome *intelligent beings*, who are 'capable of enjoying the *benefit* of that light and heat 'which they diſpenſe abroad.' True, *we* are thoſe *intelligent beings*; the light and heat which they diſpenſe abroad they firſt receive from our Sun (which is the *only Sun* in this *material* world, as there is but *one ſun* or *fountain* of light and bliſs in the *ſpiritual*) and reflect it back upon the earth, for the *benefit* of its inhabitants. This is the truth of the caſe, if the Maker of theſe lights knows for what intent he made them.

His Lordſhip has two other arguments on this head, which as they are of a religious nature, ought by no means to be omitted. They are founded upon the ſuppoſition, that the univerſe is of the prodigious extent and immenſity he imagines, and that the fixed ſtars and planets are inhabited; allowing theſe two modeſt poſtulata, we are told (page 174) 'the conſider-'ation of theſe things may be of great uſe, in *abating* 'our *pride*, and *exalting* our *notions* of the *great Crea-*'*tor* of all things!' I muſt own I ſhould never have thought of this argument to abate man's pride; which has been the very means of foſtering and exalting it, by giving room to the wildeſt genius to indulge his extravagant fancy in acting the god and making (out of his own little head) an *infinity of worlds*. And why our author ſhould have recourſe to this far-fetch'd argument for what he allows (p. 189) 'the little con-'temptible particles of duſt which we daily tread un-'der our feet' ſufficiently evince, I know not.—And if the ſuppoſition of a plurality or infinity of worlds may ſerve to enlarge our *idea* of the *power* of God or 'exalt our notions of the great Creator of all things,'

it muſt be remember'd, that it will proportionably tend in weak minds to leſſen the idea of his *goodneſs* and *concern* for *man*; and ſo introduce infidelity and atheiſm in the world. And I am ſorry to ſay it, that ſeveral of our modern philoſophers have been theſe weak men, and have argued againſt chriſtianity from this very circumſtance. Whereas, contracting the univerſe to its real bounds, and ſuppoſing ALL to have been created for man, will raiſe in man (if he has any ſenſe of *gratitude*) the higheſt degree of acknowledgment and praiſe; and yet ample room will be left for adoring the power, the omnipotence of GOD. And if we are to ſtretch, beyond all reaſon and religion, the Almighty's power or greatneſs, on purpoſe to exalt our notions of it, I can ſtretch it perhaps far beyond what any modern philoſopher ever imagined. All greatneſs then, I would obſerve, is *comparative*; what is *great* to man, may not be ſo in the ſight of an angel; and what is *great* to both theſe, is *nothing* in reſpect of GOD. And I can conceive that GOD, if he ſo pleaſes, can create a world in every atom of matter or form creatures ſo ſmall that every atom of matter may appear to them as large as the univerſe at preſent does to man. The ingenious reader, if he is converſant with Mr. *Leuwenhoek's* microſcopical experiments (which prove, as it ſaid, 'that there are animals in this world ſo extremely minute, that a million of them might be ſuppos'd 'not to exceed the bigneſs of a grain of ſand') or if he allows the *Newtonian* hypotheſis, 'that all the 'matter in the known univerſe may be reduced into a 'globe of *one inch* only in diameter,'[1] will not be backward in granting the above ſuppoſition *poſſible*; and as it enlarges the idea of GOD's magnificent power, he will readily believe it *probable*; and then every atom in this world may be *juſtly ſuppoſed* to contain

[1] *Pemberton's* View of Sir *Iſaac Newton's* Philoſophy, p. 356.

another world; nay, for ought we know (to carry *human probabilities* further) *this world* itſelf may be but as an *atom* to another *infinitely larger*; in which it is toſſed about much in the ſame manner as a *particle of duſt* is in this, tho' with as little ſurprize to or knowledge of its inhabitants, as the movement of an old cheeſe to the living world within it. O amazing thought! O God-like power of the human Soul! with what ſtrength of *imagination* art thou endued! with what fortitude in thy bold reſearches! who canſt ſee, or *imagine* that thou ſeeſt (and be unmoved)

'*Atoms* or *ſyſtems* into ruin hurl'd,
'And now a *bubble* burſt, and now a *world*.

POPE's *Eſſay on man.*

BUT however grand or glorious theſe imaginations may appear, yet as they are built and ſtand only upon the *ignorance* and *arrogance* of man, they muſt fall by their own weight. The GOD and maker of this world (who beſt knows what the world itſelf is and what man is) has referred us only to *the Heavens* [the inanimate agents, operating in their wonderful œconomy and joint-motions, ruling every thing in this ſyſtem, and conſtantly diſpenſing the benefits of this life] *as declaring his glory, and the firmament as ſhewing his handy-work*, Pſalm xix. 1. or, as we are told elſewhere (*Rom.* i. 19.) *That which may be known of* GOD *is manifeſt among men*; *for* GOD himſelf εφανερωσε *hath ſhewed it unto them* [hath *manifeſted*[m] it; for otherwiſe it could

[m] 'The word (as Dr. *Ellis* obſerves in his excellent Treatiſe, '*The Knowledge of Divine things from Revelation, not from Reaſon* '*or Nature*, p. 219) expreſsly denotes a *poſitive act* of GOD, who 'brought to light, made manifeſt and evident that which was dark, 'obſcure and unknown before.' Might I preſume, I would recommend to the reader this *Treatiſe* of Dr. *Ellis*'s; it contains (among other valuable truths) an *explanation* of *all thoſe paſſages* of *Scripture* which the *Deiſts* have brought as favouring their *natural-religion* or *ſelf-ſufficient ſcheme*; and ſuch texts ſhewn to mean directly the *contrary* to what they cited them for.

never have been known]. Γαρ, *For*, [Inasmuch as] *the inviſible things of Him from* [not εκ, but απο, *ever ſince*] *the Creation of the world* [when they were fully *revealed* to the firſt man, and he and his ſons directed to convey them to poſterity] *are clearly ſeen* [καθορᾶται, are evident to the ſight] *being underſtood* [viſibles being made ſubſtitutes for inviſibles (as all our ideas enter in thro' our ſenſes) and therefore αορατα νοουμενα the *inviſibles* are rendered *intelligible*, *diſcernible* to the *underſtanding*] *by the things that are made, even his eternal* [αιδιος perpetual, conſtant] *Power* [like *That* of the *Heavens*] *and God-head.* Here then is a *glaſs* in which men may ſee εν αινιγματι (1 Cor. xiii. 12) *in a reſemblance*, the nature of the Eſſence, the Power, the Wiſdom, the Goodneſs, the Glory of JEHOVAH. And as for thoſe who would ſend the mind of man into *infinite Space* (as 'tis called) to reap this knowledge, from picking up what it can *imagine* concerning this or that heavenly body, they are certainly miſ-directing people; and the mind after ſuch a ſearch muſt return as empty as it went out, or be loſt in an *infinity* of *non-entities.*

To proceed with his Lordſhip's interpretation of the 1ſt Chapter of *Geneſis.*

VER. 2. *The Earth was without form, and void.*

'Page 45, TOHU VE BOHU, as it is in the original, 'which words are generally uſed in the Bible, to de-'note a *deſolate*, *barren*, and *unprofitable* place; to 'which, I ſuppoſe, *Moſes* alludeth in this paſſage, to 'the earth's being *without form*; ſince GOD had not 'yet impregnated the earth with the ſeeds of fertility.' That is, the earth was *deſolate*, before it was furniſhed and adorned with any animals, plants, buildings, &c. It was *barren*, even before it had been impregnated with the ſeeds of fertility. It was *unprofitable*, before any creature could poſſibly receive benefit therefrom, or

before God had pronounced it *good*, that is, fit for the end he deſigned it. Which unneceſſary deſcription ſurely cannot be the ſenſe of Scripture. *Munſter* ſeems to me to have given the true meaning of the firſt word, *Nam eſt* Tohu, *quod neque formam habet, neque figuram, ſed in propinqua eſt diſpoſitione ut illam recipiat*, i. e. *For* Tohu *is that which hath neither form nor figure, but is in a due diſpoſition to receive it.* So that the engliſh Tranſlation is pretty juſt, the earth was *without form*, i. e. was a fluid, looſe, unformed maſs; the parts for ſolids and fluids being confuſedly mixed together; it was not created a ſolid, ſpherical ſhell (as it is at preſent, allowing only for the apertures thro' which the ſeas, &c. communicate with the abyſs) but gained its ſolidity by degrees. The heathen Poet in the account of the origin of things, which he received from tradition, gives a tolerably good deſcription of the earth in this ſtate.

'Unus erat toto naturæ vultus in orbe,
'Quem dixere Chaos; rudis indigeſtaque moles;
'Nec quicquam niſi pondus iners; congeſtaq; eodem
'Non bene junctarum diſcordia ſemina rerum.
'Sic erat inſtabilis tellus, innabilis unda,
'Lucis egens aer. Nulli ſua forma manebat.

'One was the face of nature; if a face,
'Rather a rude and undigeſted maſs:
'A lifeleſs lump, unfaſhioned, and unfram'd,
'Of jarring ſeeds; and juſtly *Chaos* nam'd.
'Then ocean, air, and earth confounded were,
'Unſtable was the earth; and dark the air;
'The ſea unnavigable: no forms aſſign'd
'To each, as yet diſtinguiſh'd any kind.

And the Earth was not only in a fluid looſe ſtate, but *void*, i. e. *empty*, hollow within, filled *only* with *air*, or *comparatively void*; for neither Scripture nor

Nature knows any other kind of *Vacuum* or Void than a comparative one. We ſay, a caſk is *empty*, *hollow within*, when it has nothing in it but *air*. Such was the condition of the earth. The meaning of the word BOHU (tranſlated *void)* is fixed, *Iſaiah* xxxiv. 11. *He ſhall ſtretch out upon it the line of confuſion, and the ſtones of* EMPTINESS [BOHU.] 'The land (ſays Mr. *Bate* in 'his interpretation of this text, in his anſwer to Mr. 'Berington) was to lay waſte, the cities to be in ruins, 'and it is intelligibly expreſſed, *He ſhall ſtretch out* 'upon it the line of (i. e. allot it out to) *deſolation*, where 'all ornaments of workmanſhip or *formation* ſhould 'be deſtroyed? *and ſtones of emptineſs*, as large frag-'ments of walls and buildings, or large ſtones lay, 'when confuſedly flung together in heaps of ruins, 'with *Voids* or *Hollows* between them.—And in theſe 'Hollows, the birds and wild beaſts were to dwell, as 'the text ſays.' The reaſon why the earth was to be created *hollow* in the inſide or with a *central cavity*, will be ſeen as we proceed.

And Darkneſs was upon the face of the Deep:

'FOR (ſays his Lordſhip, pag. 46.) as the ſun was 'not yet created, it is certain that there was then *much* 'leſs light, than there is now even in the darkeſt night.' If there was much *leſs light* then, it is certain there was *ſome light*; and how there could poſſibly be *any*, before either the light or the ſun (as he ſays pag. 49.) 'were 'created or ſpoke into exiſtence,' is to me altogether inconceivable.

Moſes tells us, that *Darkneſs was upon the face of the Deep*. By *Deep* [TEUM[n]] plainly meaning, as above deſcribed, the fluid chaotic ſtate of the earth. And

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[n] תהום [TEUM] is certainly derived from תהו [or TOHU as above written] and both of them denote any thing in a *looſe*, *unſtable* ſtate, and here emphatically, the *fluid chaotic maſs* of the earth. And as this word deſcribes the condition of the *Earth*, ſo HaSaK [*or Darkneſs*] denotes the ſtate of the *Heavens*.

as nothing was yet *created* or *formed* but *the Heavens* and *the Earth*; ſo *Darkneſs* muſt allude to ſome condition of the Heaven or Air which ſurrounded the earth; which ſtate is clearly deſcribed by the word HaSaK, (tranſlated *darkneſs*) which takes its name from a verb of the ſame letters, ſignifying, to *ſtop*, *retard*, *reſtrain*, &c. and ſo implies that the heavenly matter *round* and *in* the *earth* (for *darkneſs was upon* PaNI, the *faces*, i. e. the *outward* and *inward ſurface* of the earth) was in a ſtate of *ſtagnation*, or *inactivity*.—*Darkneſs* cannot be, as our modern Philoſophers imagine, a *privation of light*; for light was not yet formed; and darkneſs exiſted *after*, and *together with* light; for *God divided between the light and between the darkneſs*, verſe 4.—That *darkneſs* is a *real ſubſtance*, and of *what* that ſubſtance is formed, is evident from *Exod.* x. 21. where God ſays unto *Moſes*, *Stretch forth thy hand* [exert thy power] OL ESaMIM, *over the heavens*, *that there may be darkneſs* [that the *heavens* may become *dark*, *torpid*, *ſtagnant*] *even* DARKNESS WHICH MAY BE FELT. *And there was a* THICK DARKNESS, &c. As alſo from *Iſai.* v. 30. *Behold!* HaSaK JaR, *Darkneſs compreſt*, *and even the light is darkened* [grown torpid, retarded] BORIPIE *in defluxionibus ſuis*, ſays *Pagninus*, in its *defluxions*, *flowings*; which ſhews that *light* may be *converted*, *thickened* into *darkneſs*; and therefore both of them are the ſame in *ſubſtance*, tho' different in *outward form* or *modification*, ——All this (tho' true philoſophy) is contrary to the apprehenſions of the Vulgar; Scripture therefore is not accommodated to their conceptions °.

And the Spirit of God moved upon the face of the Waters.

I ALLOW with our Author, and the beſt commentators, that by *the Spirit of God* is here meant, not the

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° This remark the reader may make on almoſt every paſſage in this *firſt* chapter of *Geneſis*, and be abundantly convinced that *Moſes* did not ſuit his deſcriptions *ad captum Vulgi*.

immaterial, but *material Spirit* or '*air*' *in motion.* In the ſame ſenſe as the word is to be underſtood *Iſai.* xl. 7. *The* Spirit *of the Lord bloweth upon the graſs of the field*; or rather, as the word is uſed *Gen.* viii. 1. where the ſame act is attributed to it, and the earth deſcribed to be in the ſame *fluid chaotic* ſtate, as in the text under conſideration, *And God made a Wind* (the Spirit) *to paſs over the earth, and the waters were aſſwaged.*——— And I apprehend that it is called *God's Spirit* or *the Spirit of God*, becauſe He alone did, or indeed could (for it was an act equal to that of Creation) produce ſuch a *motion* in the (before) *dark*, *ſtagnant* air; and it is ſo called alſo, with a view to deſtroy the opinion of the idolatrous heathens, who worſhipped the *Air* or *Spirit* as if it was *God himſelf*, and not a *creature* of GOD.

His Lordſhip imagines that it was ſo called, 'becauſe 'it was a method common to the Hebrews whenever 'they had a mind to expreſs any thing that was *high*, '*elevated*, or eminent in its kind, to call it a thing of 'GOD, that is a God-like thing.' [p] I am ſurprized that he ſhould aſſert that 'the air or atmoſphere' is called 'the air of GOD' on account of its *height*, when he had before endeavoured to prove that the Hebrews had very contracted notions with reſpect to the height of the air, not imagining it to reach farther than the clouds. [q] But allowing that they eſteemed it, as he *now* ſays, to be of 'great height,' let us examine the proofs brought for this interpretation. 'Thus high 'mountains are in the ſcripture ſtyle called *the moun-* '*tains of God*'. This is not proving that they are ſo called on *account* of their *height*; or even that *high* mountains are ſo called. It is well known, that *mountains* were formerly the places of *worſhip*, and thoſe where JEHOVAH was worſhipped, called *his*, on that

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[p] Page 47. [q] See p. 11, of this Treatiſe.

very account; as thoſe conſecrated to the ſervice of *Baal*, &c. were called the *mountains* or *high-places of Baal*.—Trees alſo were *ſacred*; the *Cedar* in particular, as *Ezek.* xvii. 22. the title of which part of the chapter is thus judiciouſly given in our engliſh tranſlation, *God promiſeth to plant the cedar of the Goſpel.* See alſo *Iſai.* xli. 19. And that ſingle paſſage in Scripture, where the expreſſion '*the Cedars of God*' occurs is undeniably ſymbolical: the Pſalmiſt is ſpeaking of *the people of God*, the *Church*, under the emblem of a *Vine*, and compares its *branches* to *the cedars of God*, i. e. (Pſalm xcii. 12, 13) *flouriſhing like thoſe which were planted in the houſe of the Lord*; and ſo *dedicated* to him.—— 'Men of power and authority are called *Sons of God*.' *Sons of God* throughout the Scripture, when applied to men, means *Believers*, or the *adopted Sons of God thro' Faith*, as *Sons of Adam*, *Belial*, *&c.* means *unbelievers*, *apoſtates*. I ſuppoſe his Lp. alludes to *Gen.* vi. 1. *And it came to paſs, that the Sons of God ſaw the daughters of men, that they were fair: and they took them wives of all that they choſe.* [r] (So the *Iſraelites*, *Num.* xxv. the *children of God*, were enticed and *beguiled by the daughters of Moab to commit whoredom with them.*) ver. 4. *There were Giants* [ENaPaLIM *fallen ones*, *Apoſtates*, [s] from NaPaL to *fall away*, to *revolt*] *in the earth in thoſe days. And alſo after that, when the Sons of God came in unto the daughters of men, and they bare children unto them: the ſame became* MIGHTY MEN, *which were of old*, MEN OF RENOWN; in the ſame ſenſe as *Nimrod* is ſpoken of *Gen.* x. 8. *He began to be a* MIGHTY ONE *in the earth* [*giving out*, as *Simon Magus* did, *Acts* viii. 9. *that Him-*

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[r] Biſhop *Hall* ſays on this hiſtory 'That which was the firſt 'occaſion of *ſin*, was the occaſion of the *increaſe* of ſin: A *Woman* 'ſeduced *Adam*; *Women* betray theſe *Sons of God*: the beauty of the 'apple betrayed the woman, the beauty of theſe women betrayed 'this holy ſeed.'

[s] See *Ainſworth* on the *Pentateuch*.

ſelf was ſome GREAT ONE; *and bewitched the people from the faith.*] *He was a mighty hunter* [*of ſouls*; ſee *Jerem.* v. 26. *Ezek.* xiii. 18—23. i. e. *a ſeducer of believers*] LAPNI IEUE *even before the Preſence of Jehovah*, [that is, before the *place* of true worſhip, where the *Preſence dwelt*, [t] or, as it is expreſſed in after-times, *before the door of the tabernacle*] as were *Corah*, *Dathan* and *Abiram*, who were likewiſe ſtiled *men of renown*, *famous* [i. e. infamous] *in the congregation*; *who ſtrove againſt Moſes and againſt Aaron before the door of the tabernacle*, *when they ſtrove againſt Jehovah*, *Numb.* xvi. xxvi.——— 'And the City of Niniveh, on account 'of its ſize, is called the *City of God*;' which laſt words in the Original are עיר גדולה לאלהים *a great City for* or *belonging to the* ALEIM, the true GOD; and accordingly the inhabitants of it *repented* upon the *preaching* of *Jonah*, and performed ſuch ſervices, as ſhewed that they *knew* what the true religion was, tho' *in general* they had not *practiſed* it.———The reader is now at liberty to judge, whether *the Spirit* or *this firſt motion in the air* be called the *Spirit of God*, for the reaſon which his Lp. has aſſigned, or that which I have here given.

The Spirit of GOD *moved upon the face of the waters.*

THE word, tranſlated *moved*, in the original, as his Lp. obſerves, [u] ſignifies properly a *ſhivering* or *tremulous kind* of *motion*, 'ſuch as a man maketh, when he 'ſpeaketh for fear, in which ſenſe this word is uſed 'Jer. xxiii. 9. or as a hen [in the engliſh tranſlation, 'an *eagle*; and ſo the original ſignifies] uſeth when 'ſhe expandeth her body and wings [*fluttereth*] over 'her brood of chickens [*over her young ones*]. And 'therefore this word is elegantly expreſſive of the *vi-*

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[t] This was the *Preſence of* JEHOVAH which *Cain* ſo much dreaded to be driven from; *Gen.* iv. 14, 16.

[u] Page 48.

'*brating motion* of the air;' and as this motion was upon the ſurface of the *fluid mixture*, termed *Waters*, ſo it would have the ſame effect, as the action of the air at preſent has upon any *turbid water*, that is, it would ſeparate and precipitate the *ſolids* or *earthy parts*, and permit the *fluids* to ſlip between, and riſe up to the top or *ſurface*, which therefore would be clear, or conſiſt ſolely of *water*; on which account it is ſaid, that *the Spirit moved upon the face of the* WATERS, not of the *Deep*, becauſe That conſiſted of both *Water* and *Earth*. The *Spirit*, as ſoon as formed, would begin to have this effect; which would be much encreaſed, when it was put into a *ſtrong vibrating motion*. And as this action was upon the *whole ſurface* of the *waters*, or rather upon the *ſurfaces* [PNI] both *inward* and *outward*, ſo the *ſolid ſphere* of the Earth would *now* properly *begin* to be *formed*; but could not be perfectly *ſhaped* or the finer atoms be firmly driven together by the groſs action of the Spirit alone; ſome other, more ſubtle penetrating agent was neceſſary to effect this. And accordingly *God ſaid*, [decreed, commanded]

Let there be Light, and there was Light.

'The means produced the intended effect, ſays Mr. '*Hutchinſon*, For ſince there was *motion* or action in 'the airs, and conſequently a *ſecond cauſe*; it muſt 'mean, Let the motion, which I by my power have 'produced, and by diſpoſition of matter continued 'among the airs, and ſtiled *my Spirit*, ariſe to *that* '*degree*, or put them into *that condition* I call *Light*.' It has been thought by ſome, that *Light* was *now created:* but ſuch ſeem not to have regarded the *diſtinction* made by the inſpired Writer between *Creation* and *Formation*; the *matter* of the world was *created* at *firſt* and *at once*; but *formed* by *degrees* into the *preſent Syſtem*. 'It is ſo then (ſays the judicious *Bacon* in his '*Advancement of Learning*) that in the work of Crea-

'tion, we ſee a *double* emanation of virtue from GOD: 'the one referring more properly to *Power*, the o-'ther to *Wiſdom*; the one expreſſed in making the *ſub-'ſiſtence* of the *matter*, and the other in diſpoſing the 'beauty of the *form*. This being ſuppoſed, it is to be 'obſerved, that for any thing which appeareth in the 'hiſtory of the Creation, the *confuſed maſs* and *matter* 'of heaven and earth was made *in a moment*; and the 'order and *diſpoſition* of that Chaos or maſs, was the 'work of *ſix days*. Such a note of difference it pleaſed 'GOD to put upon the works of *Power*, and the works 'of *Wiſdom*. Wherewith concurreth that in the for-'mer, it is not ſet down, that GOD ſaid, LET *there* BE 'heaven and earth, as it is ſet down of the works fol-'lowing, but *actually*, that GOD MADE *heaven and* 'earth. the one carrying the ſtyle of a *manufacture*, 'and the other of a *law*, *decree*, or *council*.' Lord *Bacon*'s *Works*, *fol.* Vol. ii. p. 434. So *Becher* in his *Phyſica ſubterranea*, p. 11. juſtly obſerves, 'Nullibi 'legimus, *Deum in Creationis principio præter cælum et* 'terram aliud quid creâſſe, &c. *i. e.* We no where read 'that GOD in the *beginning* of the Creation *created* any 'thing beſides the *heaven* and the *earth*; for all other 'things were *produced* from theſe. The heaven there-'fore and the earth are *properly* ſaid to have bee *cre-'ated*; for altho' Scripture aſſerts, that *God created* 'man alſo, yet *this creation* is not to be underſtood 'otherwiſe than *productively* from things *already created*; 'for *man was made of the earth*; which GOD *formed* 'and *faſhioned* into a fleſhy ſubſtance; which *for-'mation* or *diſpoſition* ſhould rather be called a *production* 'than a *Creation:* The word therefore to *create* or *to* 'have been created, when ſpoken of the *origin* of man, 'muſt undeniably be underſtood of his *more noble part*, 'namely *his Soul*, which was then *created* by GOD.' The ſame may be ſaid in relation to what is aſſerted *Gen.* i. 21.

that God created *every living creature that moveth, great whales*, and *creeping things* [*i. e.* Pſal. civ. 26. *both ſmall and great animals*] as ſuch have *ſomething* in their natures *ſuperior* to *inanimate matter*, which was *created at firſt.* ‘ Light therefore [to ſpeak in the words of another author] exiſted in *ſubſtance* before, tho' not in *form*; it ‘ was in being, tho' not as light. What was there here ‘ to make Light of? Nothing has been mentioned but ‘ the chaos, waters, darkneſs, and ſpirit. *Darkneſs* was ‘ *Air* in a ſtate of inactivity, *ſtagnant air*. *Spirit*, air in ‘ a ſtate of motion, *impelling air*. *Light* is *air* ſtill, in a ‘ ſomewhat different condition from ſpirit; in *ſmaller* ‘ *grains*, or in *atoms* &c.—That *Light* is a *ſubſtance* ‘ is now allowed; that it is no ſubſtance diſtinct, (as ‘ to its conſtituent parts) from what had been mentioned before, is plain from the expreſſion, *Let there be*, ‘ which implies neither Creation, nor Formation immediately by God, but the reverſe. As nothing was ‘ in motion but the ſpirit, it follows from inference, ‘ that from the *ſpirit* it was formed; and was a conſequence of the motion of the ſpirit, becauſe there was ‘ no other agent to make it. Had Scripture meant that ‘ God now *created* Light, it would have ſaid ſo. ‘ Had it meant that God *now* by his *immediate* power ‘ *formed Light*, it would have ſaid ſo. Something *diſtinct* from both is expreſſed, and doubtleſs was ‘ *intended.* This can be nothing elſe, than as above; ‘ a farther *alteration* in the condition of the air, brought ‘ about by what was then in motion."—And that Light is of the *ſame* ſubſtance, conſiſting of the *ſame* ſpecies of atoms with *darkneſs* and *ſpirit*, is plain from fact. Fire or a Focus of Light cannot ſubſiſt, but where there is air, as is evident from what is commonly call'd a *Vacuum*; for the air being extracted from the Receiver, the fire immediately goes out. Again; ‘ hold ‘ your hand before a fire, you feel heat before and cold ‘ behind: you perceive air preſs in; out again it muſt

'come; *annihilated* it cannot be; for if it were, all the 'ſpirit in the univerſe muſt long ſince have been 'exhauſted, and ſo there would have been neither 'fire nor light, which cannot ſubſiſt without the 'action of the ſpirit [conſider the immenſe heat and continual draught of air under the torrid zone; that by which the trade-winds are cauſed: conſider alſo the inconceivable quantity of ſpirit there muſt be for the nouriſhment of the prodigious fire at the orb of the Sun]. The air comes not out however in 'the ſame condition it went in. It goes in cold, and 'comes out hot. Heat, we know, pervades and enters 'the pores of the hand, which cold cannot. This leaves 'no doubt, that the air is divided or diſſolved in the 'fire as metals are, and forced out again by ſucceeding 'air or ſpirit. And why may not air be conceived 'capable of being melted and ſtorkning afterwards, 'or growing cold or hot, as it is agitated or quieſcent, 'as well as gold, lead, and ten thouſand other ſpecies of 'ſubſtances; what is there in the one to impede, which 'is not in the other in ſome proportion?' Nay, does not air at firſt ſight appear to be far more capable of ſuch an alteration, than ſuch ſolid ſubſtances as gold, lead, &c. or even water. Again; 'it is well known, that '*Light* may be *formed* in the *condenſed Receiver* by rub-'bing too hard bodies together. What doth this do, 'but grind the *ſpirit* or larger maſſes and grains of 'air, which were too big to paſs the pores of the glaſs, 'into *light* or ſingle atoms; which can eaſily pervade 'thoſe of glaſs and alſo thoſe of the eye? Light therefore 'conſiſts only in thinning the air, or to ſpeak ſtrictly 'and intelligibly, in dividing or ſpliting its grains or 'maſſes; and then it can, as wheat when ground, run 'thro' the ſeive, which it could not before. So we are 'as well aſſured that *light* and *ſpirit* are the *ſame* [in '*ſubſtance*, however different in *form*] as we are that

'wheat and flour are ſo.'* I hope it now clearly appears *what* Light is, and *how* it was *formed.*

Our Author imagines that the *Sun* was *now created:* whereas nothing was at this time *created:* and the ſun is mentioned to have been *formed* after; of which therefore in its due place. That light may exiſt without the ſun, or that other foci of light may be formed beſides that of the ſun, is evident enough from common fires, the colliſion of the air between the ſtroke of a flint and ſteel, &c. The ſeeming difficulty indeed is to aſcertain how this action of light could be ſupported or preſerved without fuel or ſome proper body for the fire to act in: but this difficulty vaniſhes when we are told (on purpoſe one would think to obviate the objection) that

God divided the light from the darkneſs.

Or rather as it is more juſtly render'd in the margin, *God divided between the light and between the darkneſs.*

This act is afterwards attributed to *the lights in the firmament of heaven (ver.* 18) and muſt therefore mean ſomewhat more than the bare diviſion of light and darkneſs by the interpoſition of the body of the earth; which alſo is ſufficiently diſtinguiſhed by the terms *day* and *night*, which immediately follow. The expreſſion is plainly double, and ſo muſt the action be, *God divided between the light and between the darkneſs.* He ſeparated between the actions of each, ſo that the darkneſs could not overpower the light, or the light act ſtronger than for the ends deſigned; but juſt ſuch an interchange be carried on between each, as ſhould anſwer the propoſed intent. † Had not the focus of

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* *Experimental Philoſophy aſſerted* &c. the Reader may alſo ſee ſeveral proofs that *air* is *convertible* into *Light*, and *vice verſa* in *Penroſe's Treatiſe on Electricity.*

† For a fuller explanation of this paſſage, and the preciſe meaning of the word IBaDaL [he *divided*] ſee *Moſ. Principia*, Part 11. p. 221—36.

light, now formed by the violent motion of the ſpirit, been ſupported by ſupernatural aſſiſtance, it muſt inſtantly have been extinguiſhed; as it is in the caſe of Lightning; where the air ruſhes in and diſſipates it, after a ſudden flaſh, for want of a proper body to retain it. As GOD therefore had before *commanded the light to ſhine out of the darkneſs* (2 *Cor.* iv. 6) ſo he now ſupported it in its action; perhaps in the ſame manner as he preſerved the *Fire* which attended the camp of the *Iſraelites* during their peregrination in the wilderneſs: Which *Support* [y] of *fire* in the open air was a demonſtration not only to the *Iſraelites* but to all the neighbouring nations (many of whom worſhipped *Fire* as a *God*) that JEHOVAH was the true GOD, the *Creator* and *Preſerver* of the Univerſe.

And the Evening and the Morning were the firſt day.

ON which his Lp. thus remarks, 'And here I cannot but take notice of a very vulgar error, which 'the *bulk of mankind* have run into, from a wrong 'interpretation of this text, in beginning to count 'their day from the evening. Whereas it is plain 'from the words of this text that *Moſes* began to 'reckon his firſt day from the morning, and not from 'the evening, when he ſays, *And the evening and the 'morning were the firſt day.* For, ſince at the Crea'tion, *Darkneſs was upon the face of the deep*, as ſoon

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[y] So the word tranſlated *pillar* [OMUD] ſignifies. That neither the *Cloud* nor the *Fire* that attended the camp of the *Iſraelites* were in the ſhape or form of *pillars*, I think, is evident from what the Pſalmiſt ſays concerning them. cv. 39. *He* SPREAD *out a Cloud for a* COVERING, *and Fire* [i. e. he likewiſe *ſpread out* a Fire] *to give light in the night ſeaſon.* So that the firſt ſeems intended to have *ſhadowed* them from the heat of the ſun, in that burning Wilderneſs, during day; as the *Book of Wiſdom* alſo intimates, xix. 7. *A Cloud ſhadowing the camp:* and the other, not only *to give Light*, but probably *Warmth*, during the cold of the night. And to anſwer theſe two reſpects they could ſcarcely have been in the ſhape of *pillars* or *columns.*

'as the ſun began to ſhine, then began the day; and 'continued twelve hours, untill evening cloſed the 'day; at which time the night having commenced, 'continued alſo for twelve hours more, untill the ſuc-'ceeding morning cloſed the night; and thus it was 'that the evening and the morning formed and com-'poſed, or finiſhed and compleated, the firſt natural 'day, of twenty four hours, by one revolution of 'the earth round its own axis.' Now, firſt; I muſt own my ignorance to be ſo very great, that I never knew 'that the *bulk* of mankind *began* to count their '*day* from the *evening*.' Some few among the antient heathen philoſophers aſſerted, that *Darkneſs* or *Night* was prior to light or day, and made it *the parent of their Gods*; [z] as in fact it was; for *the Lights in the firmament of heaven* or the *pure Æther* being *their Gods*, theſe were formed not only *after*, but *out* of *darkneſs*. And ſome nations computed *time* by *nights*. But very few indeed, by no means *the bulk of mankind*, began to count their *Day* from the *Evening*.—And I am afraid our Author's miſtake in this, and in what he ſays after, aroſe from not making a proper diſtinction between Darkneſs and Light, Day and Night, Evening and Morning: *Darkneſs* and *Light* were ſpread and diſperſed through a vaſt ſpace in the heavens; *Day* and *Night* reſpected in particular the ſtate of the air on or near this globe; the day, that part which was oppoſite to, and on which, the primæval light ſhone; the latter, the contrary: the *Evening* and the *Morning* denoted the boundaries of night and day, or darkneſs and light upon and over the ſurface of the earth; the evening denoted that part which was going out of day into night; the Morning, that which was coming out of night into day. And as it was the will of God that

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[z] See the Verſes aſcribed to *Orpheus*, and *Heſiod*, as quoted by *Grotius* in his Tract *De Veritate Rel. Chriſt.* Lib. i. § xvi.

the earth ſhould move the ſame way with the reſt of the planets, (or rather that the planets ſhould follow the motion of the earth, for that was formed and moved firſt) i. e. from *weſt* to *eaſt*; ſo *Moſes* could not but mention the evening before the morning, as the earth is carried from weſt to eaſt; for as the evening-part of the earth or that part of the earth where the evening is, is weſt; and that where the morning is, is eaſt; ſo if *Moſes* had placed the morning before the evening, it would have implied that the earth had moved firſt from the *morning*, i. e. from the *eaſt*, to the *evening*, i. e. the *weſt*; which would indeed have been ſpeaking according to the *appearance*, but not the *reality* of things, conſonant to which the moſaic account is ſtrictly written.—And why the half-revolution of the earth upon its axis, viz. from that part which is *now* evening, by the time the ſame comes under the morning-edge, may not be termed a *day*, as well as *vice verſa*, I can ſee no reaſon; for either implies the other; and the night is not reckoned.—Our Author ſuppoſes that the *Day* here mentioned was not completed 'till a whole revolution of the earth round 'its axis;' had ſuch a day as this been meant, the expreſſion would have been, *And the evening and the evening were the firſt day*; which would have ſignified that that part of the earth which was firſt evening, or where the evening was, had revolved quite round again to the ſame boundary of light and darkneſs; but ſaying that *the evening and the morning were the firſt day*, is plainly, as it were, ſtopping in the middle, and can denote only a *half*-revolution.

HAVING thus replied to his L.p. I ſhall now examine the paſſage under conſideration ſomewhat more particularly.

THE ſtate of things was ſuch before *Moſes* related theſe words that the *circumſtance* of the *evening and the morning being the firſt day*, appears to have been the

natural conſequence of the motions and actions before ſubſiſting. Light had been formed, had irradiated upon one hemiſphere of this globe; and there was a *double motion* in the heavens;—of light iſſuing from its center —and of ſpirit and darkneſs ruſhing to it;[a] and any body placed between two ſuch motions could not but be turned round by them; in the ſame manner, as if you take a ſmall hollow paper ball, hung moveably upon an axis, and hold it before a ſtrong furnace-fire, the ſtream of *Light* outwards and the current of *Spirit* or Air inwards will naturally turn it round or revolve it upon its axis. And this muſt have been the caſe with the earth; the circumſtances are exactly parallel. For however big and weighty the earth may ſeem, yet neither it, nor any body in the univerſe, hath any *weight* in *itſelf*; for all weight and reſiſtance proceed from the medium in which a body lies or ſwims; ſo a large piece of cork has conſiderable weight and reſiſtance in the air; but place it in water, it has ſcarce any at all, and will yield to the leaſt ſenſible touch or ſlighteſt impulſe: ſo muſt the earth;[b] eſpecially as the *medium* which *ſupported* it, was the *cauſe* alſo of its *motion*; as That therefore ſhifted and moved, the earth (like a ſhip carried by the current of a river) muſt of courſe move with it. As ſoon then as the Light began to ſhine on or had reached the orb of the earth, its particles would immediately be rebounded back at ſome

[a] This double motion is exhibited in PLATE I. where the *ſmall black ſtrokes* and dots (which are repreſented as in motion from the circumference towards the center) denote the rectilineal motion of the *Spirit* or groſs *Air*; which is farther pointed out by the courſe of the arrows directed towards the center. The *white ground* or lucid intervals between the black ſtrokes repreſent the *Light* iſſuing from the center towards the circumference, pointed out by the arrows directed from the center.

[b] His Lp. himſelf allows, p. 47, that "the Earth, *ſelf-balanced*, hangs in *Air*;" and ſo, eaſily to be moved.

diſtance from the earth, and other ſucceeding ones would be equally affected [as a current of air ſtriking againſt a wall is reverberated, as in the caſe of echoes]; this continued repercuſſive motion would cauſe a violent agitation, heat, or *tumultuouſneſs* in the air; which would make what is called *Day* in the hebrew; that word being derived from one ſignifying thus much. [c] This *rebounded Light* or *agitated matter*, which makes *Day*, would, as the earth was firſt impelled thro' the thick air from *weſt* to *eaſt*, be left behind on the *weſtern part* in a train, much in the ſame manner as the flame of a candle, if the candle be moved through the air, is deflected back. [d] This light thus turned off on the weſtern edge, would of courſe thin or rarify the air there, and ſo cauſe the groſſer parts or the *Spirit* to ruſh in or *incline* towards the earth (in order to make up the equilibrium, by filling the *neareſt* comparatively *void* ſpace) inſtead of proceeding on in its *ſtreight-lined* motion towards the focus at the center. [e] And as long

[c] IUM *Day* and IM the *Sea* ſeem to come from the ſame root EME or IME to be *tumultuouſly agitated:* and ſo, the light of the day is repelled from the earth, much in the ſame tumultuous manner as the frothy waves of the ſea, when daſhed againſt the ſhore, are driven back.

[d] This *deflected Light* is repreſented in PLATE I. on the *weſtern* or *evening part* of the earth; where a *whiter ſpace* or ground than in the parts adjacent, appears; it being deſigned to denote part of the ſtream of light B diverted or turned off towards the weſt, as above deſcribed. The courſe of this light is pointed out by *thoſe incurvated arrows*, which are engraved upon the *white ground*, and which are repreſented as moving *from* the earth.

[e] This *inclined* motion of the Spirit is deſignated by thoſe *bent* lines of *black dots* on the *weſtern* part of the earth; and the *courſe* of the Spirit pointed out by thoſe *incurvated arrows*, which are repreſented as *ruſhing* in *towards* the earth. The reader may form a judgment how the Spirit deviates from its rectilineal courſe, by obſerving how *That incurvated arrow*, which is fartheſt from the earth, *declines* from the *ſtreight-lined courſe* of thoſe that are near it, and which are *directed* to the *central focus*; whither this preſent incurvated arrow would deſcend, if it had not found a readier and eaſier paſſage to the earth; for the reaſon above given.

as the light iſſued from its center, and irradiated upon this orb and left a new or ſucceſſive ſtream diverted off to the weſtern part of the heavens, ſo long and ſo conſtantly would the ſpirit ruſh in gradually on that ſide, mix and unite itſelf without our atmoſphere, reach the earth or the air near it, turn it upon its axis and carry it on in its annual orbit.—Of this a proof and illuſtration may be given from the effects of the Sun-beams upon the earth in a calm ſummer's day, even in our northern region. Early in the morning the air is cold and chilly; when about one quarter of the day is paſt, is tolerably warm; at noon, is quite hot; and when about the third quarter of the day is gone, (i. e. about afternoon) is ſtill hotter: and this happens not only on account of the greater agitation of light, cauſed by the reflection of it from the prominent parts of the earth, as from the ſides of hills, houſes, &c. (which agitation may indeed more immediately affect us, who are ſurrounded by it and immerſed in it, with the *ſenſation* of *heat*) but alſo, becauſe *That part* of the earth where it is *Afternoon*, has *itſelf* been expoſed to a *longer* and *more continued* action of the light, than any part that is more *eaſtern*, i. e. more *towards the morning edge*; and not only this, but the ſtream of light that ſhone on the earth during the whole foregoing part of the day, being turned off *weſtward*, mixes and unites itſelf with the air over that part of the earth, where it is *afternoon*. On theſe accounts the air in the afternoon being more exceedingly heated than in any other part of the day, and being turned off, in this attenuated condition, towards the weſtern part of the heavens, would of courſe give room to the *Spirit* or *groſſer air* to ruſh in *there*, and fill up the *thinner medium*. Hence it is that when the *afternoon* is *paſt*, and the *evening* begins to come on, the air *proportionably* cools again. ——All this, I ſay, being the natural *conſequence* of the actions and motions before ſubſiſting in the air,

we ſhall now ſee the propriety of the paſſage under conſideration; which according to the Hebrew, ſhould be rendered thus, *So there was an evening, ſo there was a morning, one day*[t].

His Lp. next proceeds to entertain the reader with ſeveral philoſophical arguments in proof of the motion of the earth; I ſhall therefore endeavour to entertain him with ſome Scriptural evidence for this truth; which in this place may be thought neceſſary by thoſe who doubt whether the Scriptures do really mention the motion of the earth or not, as ſuch will probably imagine, that I have ſtretched the meaning of the words laſt under conſideration beyond what the inſpired writer intended, or even knew himſelf; ſince they not only ſpeak of the *motion* of the earth, but, including the context, declare the *cauſe* of that motion. But I dare ſay, upon examination, we ſhall find the Scripture full of this truth, and that what I have aſſerted in the above paragraph is no more than what is contained in other parts of the Bible. However I muſt take the liberty to vary a little in ſome places from the preſent Tranſlation; for as at the time when the Tranſlation was made, it was commonly thought that the Sun moved, and not the Earth; ſo the Tranſlators have accommodated the interpretation of the Hebrew words to the then prevailing notions; and yet as a proof, that they were conſcious, that the Hebrew words would bear a different rend'ring, they have frequently given the true literal meaning in the margin of the Bible; which therefore I ſhall make uſe of as the juſter tranſlation.

To produce then the Scripture-evidence for the above truth. And,—*Firſt*,—it may be obſerved, that

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[t] Two ו or *Vaus*, occurring in this manner, denote the *effect* or *conſequence*, as the learned reader may obſerve in many paſſages of Scripture.

the Scriptures ſpeak of the earth, as of a fit form to be *turned* or *moved*, for they declare that it is *round* or *ſpherical*; ſo of the *firſt ſediment*, *ſtrata*, or laying the *foundations* of the earth, *Prov.* viii. 27. *When he prepared the heavens, I was there; when he ſet a* circle *upon the face of the Depth* [the *fluid mixture*]; *when he appointed the* foundations *of the earth.* And *Job* xxxviii. 4. *Where waſt thou when I* laid *the* foundations *of the earth? Whereupon are the ſockets thereof faſtened? or who hath laid* the corner-ſtone [the key-ſtone of the *arch*] *thereof?* And Chapter xxvi. 10. *He ſet a* circle *upon the face of the waters.*———I have tranſcribed the context in theſe paſſages, in order to ſhew what the *Foundations* of the earth are, and to remove the vulgarly-conceived opinion from theſe expreſſions, of the earth's being fixed upon foundations *outwardly* or on its outſide; whereas the *foundations* of the earth mean the *inward ſpherical Arch*[g] or *Strata of Stone, laid over the waters* or *the Abyſs which lyeth beneath*[h]. Theſe foundations are ſaid to have been, as they really were, *moved* at the *Flood*; for (*Gen.* vii. 11.) *the fountains of the Great Deep were* then *broken up*; and (*Pſalm* xviii. 15.) *the ſprings of waters were ſeen, and the* foundations *of the* round world *were diſcovered at thy chiding, O Lord; at the blaſting of the breath of thy diſpleaſure.* Then (civ. 6.) *the Earth was covered with the Deep as with a garment; and the waters ſtood above the mountains: But at the Lord's rebuke they fled, at the voice of his thunder they haſted away to the place which he had appointed for them; where he has ſet them their bounds, which they ſhall not paſs, neither turn again to cover the earth.* So that neither the *Earth*, nor its *foundations ſhall be moved* [i. e. diſſolved, its parts ſeparated] any more *for ever*, i. e. for the *Ever* it will endure, the time ap-

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[g] See C in PLATE II.

[h] *Gen.* xlix. 25. *Deut.* xxxiii. 13.

pointed for its duration, or its deſtin'd period or cycle.[i]—*Iſaiah* alſo is very expreſs for the *ſpherical* or *circular* ſhape of the earth, xl. 22. *It is He that ſitteth upon the* circle *of the Earth; and the inhabitants thereof are as graſhoppers.*—*Secondly*,—The inſpired Penmen uſe ſuch phraſes as declare they knew that the earth turned upon its axis. So *Judges* xiv. 18. *And the men of the city ſaid unto him on the ſeventh day, before it* (the City) *went off towards the Sun.* So the motion was not in the ſun, but in the *City*, or that part of the earth on which the city was built. *Deut.* xxiii. 11. *But it ſhall be when it* [the place, that part of *Judea* there ſpoken of] turneth *towards Evening.* And *Amos* v. 8. *Who* turneth round *the ſhadow of death* [the night] *to the morning, and darkeneth the day into night.* So the terms uſed for the paſſing off of a day denotes as much, *Pſalm* xc. 9. *For all our days are* turned away. *Jerem.* vi. 4. *Ariſe, let us go up at noon: Woe unto us, for the day* turneth away.[k]—*Thirdly*,—The Scriptures mention the *annual revolution* of the earth. *Exod.* xxxiv. 22. *Thou ſhalt obſerve the feaſt of In-gathering at the revolution*[l] [the coming round] *of the* year. 2 *Chron.* xxiv. 23. *And it ſhall come to paſs at the* revolution *of the* year, &c.—*Fourthly*,—Not only the motion of the earth, but the *Cauſe* of that motion or the

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[i] For ever, LOULaM; 'OLaM, the term for any ſuppoſed 'Cycle or Period, within which any particular revolution is to be 'completed. This kind of orbit has its ſuppoſed *terminus inchoa-'tionis*, from whence its courſe commences and aſcends gradually '(from whence the verb OLE, *aſcendere*) 'till it arrives at its ver-'tical point; then it circulates in a declivity, 'till it comes again 'to the *terminus inchoationis*.' Dr. Hodges's *Miſc. Reflections*, &c.

[k] The word *here*, and in *two* other places under this article, rendered *turneth* (PaNE) properly means *ſucceſſively to obvert* or *turn up a new face, ſegment*, &c.

[l] The word QUP or IQaP (from whence that tranſlated *Revolution* is derived) properly ſignifies *to go round in a circle*; as *the men of war encompaſſed, went round the city of Jericho*, Joſh. vi. 3.

agents which carry the earth in its orbit are expreſsly mentioned; as *Pſal.* xcvi. 11. *Let the heavens* rejoice [move backwards and forwards; the Light outwards: the Spirit inwards] *and the earth will* revolve. And *Iſai.* xlix. 13. *Let the heavens* ſhout [irradiate] *and the earth will* revolve. And ſo well known was this motion, and the Cauſe of it formerly, that the *Canaanites* in the time of *Joſhua* had a Temple dedicated to the Heavens under the title of *Beth Hogla*, i. e. *the Houſe of the Revolver*, or the Agent which circulates the earth in its Revolution, *Joſhua* xv. 6. and xviii. 19. As the Heathens in their worſhip had miſapplied the Powers of the Heavens, and ſuppoſed that they were the only Gods, or that *They* ruled excluſive of the true God (who had created, formed, and continued them in their motions) ſo the *Iſraelites* frequently attributed to Jehovah theſe Powers; and as a proof that they believed they abſolutely depended on Him for their exiſtence, motions, *&c.* they often ſpake of the effects produced by them, as if immediately performed by Jehovah Himself, as *Pſal.* xcvii. 1. *Jehovah reigneth, let the earth revolve.* cl. 1. *Praiſe Him in the Firmament of his Power.* lxxiv. 16. *The day is thine, the night alſo is thine;—Thou haſt made the Summer and Winter* [and yet the natural Agents cauſe them]. *Jerem.* xiv. 22. *Are there any among the vanities of the Gentiles, that can cauſe rain? Can the Heavens give ſhowers?* [yes ſurely naturally; but not independently of God, and therefore it follows] *Art not thou He, O Jehovah our God? therefore we will wait upon thee*; [not the Heavens excluſive of thee] *for thou haſt made all theſe things.* Many other ſuch-like paſſages will readily occur to the reader, which, by this interpretation, appear truly grand and beautiful.—*Fifthly*,—Not only the Agents, but the very *places* where they act chiefly upon the earth, are ſpecified. I have ſhewed before, that the ſtrongeſt impulſe is at the *evening-edge*; hence *Prov.* vii. 9. *at the*

blowing-in-of the Spirit in the Evening *of the day.* Gen. iii. 8. *In the Cool* [the Spirit] *of the day.*—And as the Air, ruſhing from the extremities and all parts of the heavens to the fire at the orb of the Sun, muſt in its paſſage ſtrike upon the *back* of the earth, and the force of this *general* action of the air be *greateſt* on the *back part* of the earth towards the *morning* [m] (becauſe the force of it on the back part of the earth towards the evening, would be overcome by the *inclined* motion of the *Spirit* on the oppoſite ſide) [n] ſo this force is

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[m] Viz. from that part of the earth marked *Night* to that which is marked *Morning* on the orb C in PLATE I.

[n] The inclined motion of the Spirit (denoted by the *incurvated arrows* ruſhing to the earth, in PLATE I) is plainly on the oppoſite ſide of the globe to the aſore-mentioned Force.

The reader by conſidering the effects of theſe two Forces, may have a clear idea of the revolution and motion of the earth. Let us ſuppoſe the line which cuts the earth C directly in the middle, and which is the boundary of day and night, to be a *lever*, and the *middle point* of this line to be the *center* on which the lever moves: and let the two forces or impulſes of the Spirit act on this lever. The *Impulſe* on the *evening-edge* will turn up one part [ſuppoſe the *left*] of the lever: and the *Impulſe* on the *morning* will turn down the other (the *right*); and by and between theſe two forces the lever cannot but be turned round, i. e. the earth cannot but be revolved. And as the earth is not immoveably fixed on any particular point or center, but hangs in the free open air, and the *impulſe* on the *evening-edge* is every minute *renewed*, on account of the *new* and *ſucceſſive* ſtream of light turned off towards the *weſtern* part of the heavens, and on this account alſo, the *Impulſe there* is ſtronger than *That* on the *morning-part* of the earth, ſo the earth will not only be turned round by theſe two forces, but be *carried forward*, or proceed on in its orbit.

The reader alſo may here ſee how by the *direction* and *compoſition* of theſe two Forces the earth is kept in its orbit, and prevented from being driven *to* or *from* the ſun. The *impulſe* on the *evening* or *weſtern* part of the earth (which anſwers the end of the Newtonians' *projectile* force) will prevent the *impulſe* of the Spirit on the *back-part of the earth towards the morning* from driving the earth down towards the ſun: And on the other hand, the *impulſe* of the Spirit *on the back part* of the earth, which tends to preſs the earth down towards the ſun, the center, (and which anſwers the end of

ſpoken of by the inſpired writers; and both it and the *evening impulſe* intimated by the *Pſalmiſt*, lxv. 8. *Thou makeſt the* out-goings [the *agents* that *cauſe* the *out-goings*] *of the* morning *and* evening *to irradiate.* There are two other paſſages of Scripture which come under this head; which I ſhall lay before the reader as paraphraſed by Mr. *Pike*, in his *Philoſophia Sacra*, p. 120. 'The one is *Job* xxxvii. 3. *His light is upon the* wings 'of *the earth.* From which place it is clear that the 'earth has *wings* [i. e. inſtruments of flying, moving, '&c.] and why wings ſhould be attributed to it, un'leſs it did move or fly, is hard to conceive. The 'other place is in *Job* xxxviii. 12, 13, 14. which 'ſhould be rendered thus, very little different in words 'from the preſent tranſlation. *Haſt thou commanded the* 'morning *ſince thy days, or cauſed the* day-ſpring *or* 'dawn *to know* its place, *to take hold on the* wings *of the* 'earth, *that the wicked might be ſhaken out of it? It is* 'turned *as clay to the ſeal, and they ſtand or ſupport* 'themſelves *as a garment*; namely, as a garment is 'fitted to, and is ſupported by the body that wears it. 'In which place we have not only the phraſe *the wings* 'of *the earth*, but have an intimation that theſe wings 'move and carry on the earth in its revolutions.'—Laſtly—there is a paſſage in Scripture, which not only mentions the agents that *turn* the earth on its *axis*, and *carry* it in its *annual* orbit, but which alſo deſcribes

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the Newtonians' *centripetal* force) will prevent the earth from being driven out of its orbit towards the extremities of the heavens, by the ſtrong *evening impulſe*. And thus, by and between theſe two agents (acting conſtantly and contiguouſly upon the earth) the earth will be neither driven to, nor carried from the ſun; but be moved in a line that ſhall always be a *curve* towards the Sun. The *Newtonian* mathematician will plainly ſee this, and here he may apply his rules to *real*, not *imaginary* forces; and which act too in ſuch a *direction*, as will anſwer the end deſigned.

the *declinatory* motion of the earth, or its alternate motion from Tropic to Tropic, from South to North, and vice verſa, and declares the cauſe of this ſurpriſing phænomenon. The paſſage I mean is *Eccleſ.* 1. 5, 6. But as it would be ſcarce poſſible to give the reader a clear idea of this without an explanatory Cut, and as Mr. *Catcott* in his *Veteris & veræ Philoſophiæ principia* has given ſuch a one, and alſo a full explanation of every Hebrew word, I muſt refer the reader thither, p. 43—9. I may here alſo juſt obſerve, that the *Canaanites* had a Temple to their GOD, the Heaven, as producer of this *oblique* motion of the earth, under the attribute of *Beth Shittah*[o], *the Houſe of the Decliner*, or *Cauſer of the declination of the earth.*

HOWEVER, it muſt not be diſſembled, that there are ſome expreſſions in Scripture which ſeem to favour the opinion of the *immobility* of the earth. Two of theſe I have already conſidered; one, concerning the earth's having *foundations*; the other, that it ſhould *not be moved at any time*, i. e. that its *foundations* ſhould never again be *broken up*, or its parts ſeparated, *moved aſunder*, as they were at the *Flood.* Another objection of this kind, and indeed the only material one remaining, is the aſſertion concerning the *pillars* of the earth, and the manner in which it occurs *Job* ix. 6. But the word tranſlated *pillars* is well known literally to ſignify no more than *ſupporters*; [p] *whatever* therefore *ſupports* the earth, muſt be *its pillars.* Now we have ſeen already, that it is the Fluid of the Heavens, in its two-fold condition of light and ſpirit, which upholds and ſuſtains the earth; hence is plain what its pillars muſt be; accordingly we read *Job* xxvi. 7. that *God has hung the earth upon* BALIME, the *conſtricting or binding Fluid*; the word is compounded of one which denotes the *Spirit* [BAL], and another which is the *root*

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[o] *Jud.* vii. 22. [p] See page 46.

of the word *Day* [IME] (ſo deſignates the *Light*;) and both of them ſtrongly point out the mixture of *Light* and *Spirit*, which compreſſes and ſupports the earth.[q] But let the diſputed paſſage in *Job* (ix. 5.) ſpeak for itſelf. *Who maketh ſtrong*[r] (as at the firſt Formation) *the mountains, and they* [men] *acknowledge it not*; *who* (at the Flood) *overturned them in his anger. Who* (i. e, He, GOD, by his agents, as explained above[s]) *ſhaketh the Earth out of her place, and the pillars thereof tremble* [vibrate.] *Who commandeth* (or *has commanded*) *the Sun* [a word very different from that which is uſually tranſlated *the Sun*; and which properly ſignifies *the Sun*, or *Fire at the orb of the Sun*] *and it riſeth not* [*ſpringeth not out* as the Light doth;] *and has ſealed up the Stars*; *who alone ſpread out the Heavens* [gave them their *expanſive* power]. It has been thought by ſome, that this paſſage relates to ſo many *miracles* or ſupernatural acts of GOD; the firſt verſe indeed alludes to ſuch; but the reſt do not; and it is common in Scripture, after mentioning the wonderful power of GOD in creating and forming the earth at firſt, and then diſſolving it at the flood (which were the *two* great *ſupernatural acts* in nature) to proceed to celebrate his wiſdom and power in ordaining and preſerving the eſtabliſhed laws of the univerſe; which certainly is the caſe here. For where do we ever read of the MIRACLE of *God's having ſhook the earth out of her place?* Where, of *his command-*

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[q] MARIUS DE CALASIO, בלימה eſt *Conſtrictio, Colligatio.* BUXTORF, *Conſtrictio, coercitio*; who ſpeaks of thoſe that derive the word from בלם *to reſtrain as with a brjdle*, as the word is uſed *Pſalm* xxxii. 9. Which kind of action may well be applied to the air, which ſurrounds and embraces the earth on all ſides, and moderates and governs all its motions: And both this and the above derivation from BaL and IME idem ac EME may be included.

[r] OTaQ ſignifies to be *antient*, to *endure*, to be *hard, ſtrong*, &c. *Leigh's Crit. Sacr.*

[s] See page 55.

ing the ſun, and it doth not riſe? Where, of *his ſealing up the ſtars?* Where, of *his ſpreading out of the heavens?* All theſe are *natural* acts, and *ſettled, ſtated laws* of the Syſtem; though very wonderful, and highly deſerving our praiſe and acknowledgement. Truly admirable is it, that That which ſupports the earth ſhould be in a continual tremulous motion, and yet move the earth regularly, and without any diſturbance to its inhabitants! Truly wonderful is it, that the Solar-fire, which is the great cauſe of the motion of all other things, ſhould itſelf be immoveable; or at leaſt never ſpring from its orb, and be diſperſed! And, that the Stars ſhould be fixed in their ſtations, though placed in the ever-moveable expanſe of heaven! Theſe are doubtleſs (as *Job* ſays after) *the works of Him who doeth great things, and wonders without number.*

SCRIPTURE being thus full and explicit in deſcribing, not only the *different motions* of the earth and the *directions* of them, but alſo the *Cauſes* of each, I cannot here but take notice of the great deficiency of the *Newtonian Philoſophy* in this reſpect, which yet has been thought vaſtly ſuperior to Scripture on this head. Sir *Iſaac Newton* does not attempt to account for more than the *annual* motion of the earth: Now to undertake to aſſign forces which ſhall effect this, without firſt conſidering the *diurnal*, appears to me ſomewhat prepoſterous; eſpecially if we reflect, that both annual and diurnal motions are directed the ſame way, *viz.* from weſt to eaſt: whatever therefore produces the one, in all probability is the cauſe of the other. But ſuppoſing the forces to exiſt in nature, which Sir *Iſaac aſſerts* (but I humbly apprehend does *not prove*) *viz.* a *centrifugal* and *centripetal*, yet in the manner they are applied by him, they cannot ſolve the phænomena of the earth's motion; they anſwer indeed (tho' here but in part, as will be ſeen hereafter) to the motion of a ſtone in a ſling briſkly whirled about by the hand; the

ſtone in the ſling conſtantly preſenting the *ſame face* or ſide towards the hand, the center of motion, and *not revolving upon its axis* at the ſame time it is carried in its orbit: But the earth does *revolve* upon its axis, and is continually preſenting a *new* face or ſegment to the Sun. For a perſon therefore to pretend to account for the *annual* motion of the earth, and tacitly confeſs his inability to ſolve the phænomena of the *diurnal*, appears to me juſt as abſurd, as if a man ſhould profeſs himſelf capable of telling the number of *hours* in a *year*, and yet acknowledge himſelf incapable of reckoning up thoſe which compoſe a ſingle *day*.

But to return to his Lordſhip. We are now come to page 61 and the interpretation of the 6th verſe in *Geneſis*. 'Having thus far (ſays he) traced this ter-'reſtial Globe, which we inhabit, and conſidered it 'in its firſt exiſtence, as a ball compoſed of air, wa-'ter and earth, encompaſſing one another in ſeparate 'ſtrata, according to their ſeveral denſities; and hav-'ing followed it in its motion revolving round its own 'axis, and enlightned by the ſun; we come now, 'in the next place, to conſider what would be the '*natural* conſequences of all this; in order to find out, 'if we can, what would be the *natural operations* of 'the next day's work of the Creation.

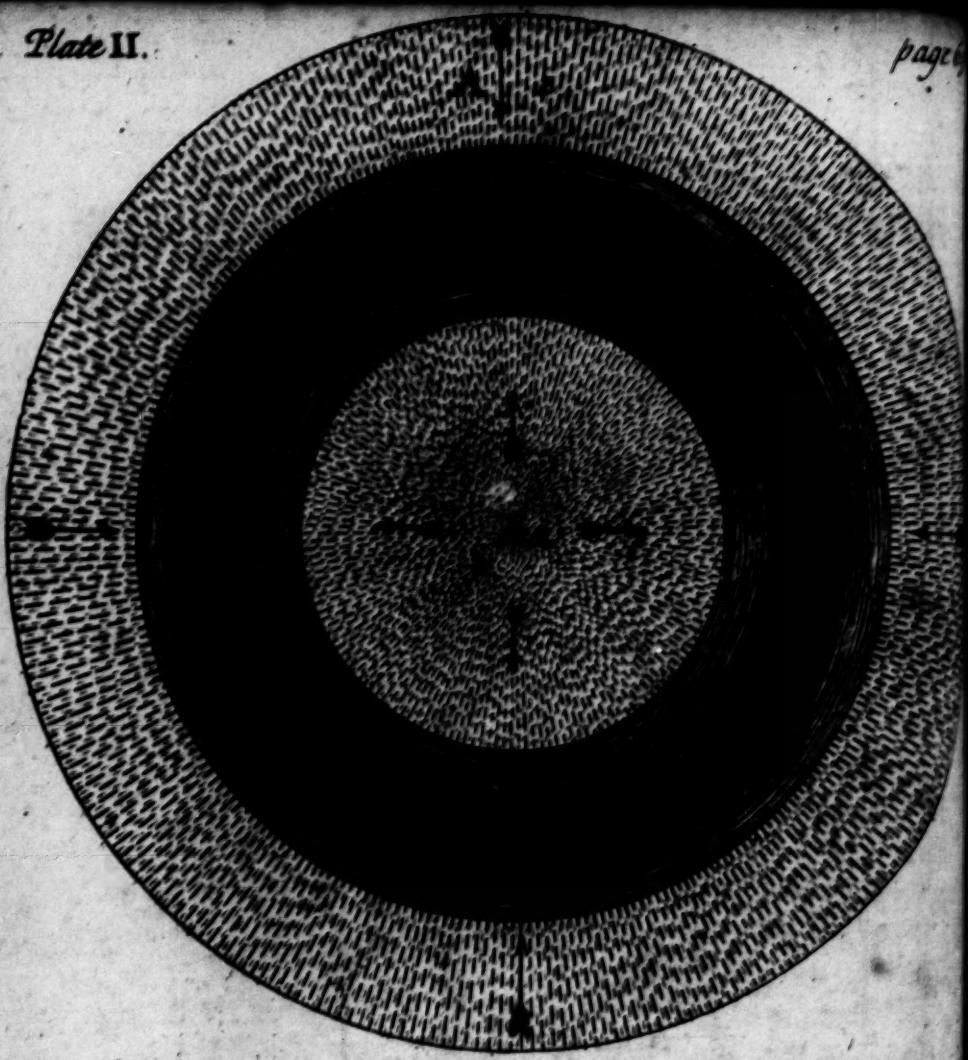
'The firſt of which would be this: That the ſun 'would, by the attractive power of its beams, exhale 'a quantity of vapours from the ſurface of thoſe wa-'ters, which expanded themſelves over the face of the 'whole earth. Which vapours thus exhaled by the 'ſun, being, by the minuteneſs of their particles, 'made lighter than air, would be driven off from the 'ſurface of the earth by the ſuperior weight of the 'air, and would float in the air or atmoſphere, and 'form themſelves into clouds, according to their dif-'ferent denſities. And agreeably to this we find that

'*Moſes* declares that God ſaid on the ſecond day, *Let there be a firmament in the midſt of the waters, and let it divide the waters from the waters.* That is, Let the *Heavens* which were *created in the beginning*, now operate as an *Expanſe*, or an expanded Firmament, for ſo the original word properly ſignifies, to ſupport theſe vapours or clouds, *and let it divide the waters* in the clouds *from the waters* on the earth. And God *made*, or appointed the heavens to be, or to operate as a *firmament*; *and divide the waters which were under the firmament from the waters which were above the firmament*; *and it was ſo. And God called the firmament Heaven. And the evening and the morning were the ſecond day.*'

On which I muſt make a few remarks. *Firſt*, I would obſerve, that if the *operations of this day's work* are to be eſteemed *natural* or the *conſequences* of *the laws of nature*, then in being, which *acted* juſt as they do *now* (as is aſſerted alſo before p. 46) it ſeems ſcarce poſſible that ſuch a quantity of vapours could have been raiſed from the earth and formed into denſe clouds in a ſingle day, or in two days at moſt, that the *waters in them* ſhould bear ſuch a proportion to the *immenſe quantity* of that Fluid which then covered the *whole face* of the *globe*, as that the *former* ſhould be deſignated *waters ſeparated from waters*, or *waters above the firmament*, in oppoſition to *thoſe that were upon the earth*: nay, ſuppoſing the clouds to have been as *large* and *numerous* as they are at preſent, they ſcarcely ſeem worthy of that denomination; much leſs the *few* that could have been collected in *two days* time.—*Secondly*—I would obſerve, that had ſuch a quantity of clouds been raiſed as even to equal the preſent number (allowing that ſuch a number would ſuit the above denomination) it could ſcarce have happened but that it muſt have *rained* upon *ſome* part *or other* of the earth. Now we are informed *Gen.* ii. 5. *that God had not cauſed*

BRITISH
11 AP 66
MUSEUM

Plate II. page



A.1. The outward Expanse. } { At first, dark Air on ỹ out
A.2. The innward Expanse. } { and in the inside of ỹ Earth

B.1. An orb of water, separated by the action of the outward Ex-
panse from the Earthy mass: called the waters under the firmam

B.2. An orb of water, separated by the action of the innward Ex-
panse from the Earthy mass: called the waters above the firma

C. The solid shell of the Earth formed, between two orbs of wa
into various concentric strata of stone, coal, &c. by the action
the two Expanses.

The Three several orbs B.1. B.2. and C. were at first confusedly mix
together, and then called the Earth without form: see p. 35.

it to rain upon the earth, and there was not a man to till the ground; but there went up a mist from the earth, and watered the whole face of the ground. Now whatever time we affix to these words, thus much is certain, that *the ground* [ADAMAH, the vegetable mould] had appeared, was *fit for tillage*, and wanted *watering*; so that it must have been *after* the *second day's operation*, for the *dry land* did not appear 'till the *third* day. So that it had not *rained* 'till then; and even the *mist* which was raised *from* WITHIN the earth, was expended in *watering the surface*, in keeping the *ground* most to a considerable depth, to prevent its being parched and dried up (for the action of light at this time was extremely powerful, as will be seen hereafter) and so preserving it fit for vegetation.—*Thirdly*,—*Moses* does not say that *the firmament was to divide the waters* in the clouds *from the waters on the earth*, or make any mention of *Clouds* or that this division was to be at *any distance* FROM the earth.

BUT—*Fourthly*,—*Let there be a Firmament in the* MIDST *of the* WATERS, [the *fluid chaotic mass*, called *Waters* before, ver. 2] *and let it* there *divide the waters from the waters.* The whole transaction then was *upon* or *in* the earth. And the words plainly imply, as others in this chapter do, a Command to the *Agents* to operate. Light had been formed, had reached and acted upon this globe; and wherever Light and Spirit are, there must of course be a *struggle* between them, and this struggle would produce an expansion, this expansion a division, and so on. 'The word for *Firmament* (says Mr. BATE) [t] RAQIO, explains what the 'Firmament is; the word signifies, as we see in the 'margin of our Bibles, *Expansion*, and the meaning 'is, Let the *Light* and *Spirit* expand and diffuse themselves, and let them press into the mixture, called

[t] *The Philosophical Principles of* Moses *defended*, &c. p. 32.

'*Waters*; and let them act *in*, *among*, or *between* the '*parts* of it, and drive the ſolid parts together, and 'thereby make a *ſeparation*, and with the parts ſe-'parated a *diviſion* or wall between the waters; ſo that 'one moiety of the waters ſhall lie on one ſide of this 'wall, and the other on the other ſide.' To explain how this was done. The reader will remember that the earth was created comparatively *void* (ſee p. 35,6) or with a *large central Hollow* (called, *Job* xxxviii. 8. the *womb* of the earth) filled *only* with *air*, as every *hollow* place in the earth at preſent is *filled*. As ſoon therefore as the light had reached this *central* or *inward* air, 'there would conſtantly commence a conflict between 'them, or a ſtruggling this way or that as from a 'center; which is obvious to every ordinary capacity 'in the caſe of a bladder that is flaccid or half-filled 'with air, when held before the fire. The light, '(which not even the cloſeſt-compacted ſubſtance can 'deny a paſſage to) iſſues forth from the fire, and pe-'netrates the pores of the bladder, drives itſelf in a-'mongſt the groſs air, which muſt force That to puſh 'itſelf every way outward, and diſtend the ſides of 'the bladder that encloſes it.' Thus would the *inward* Expanſe [denoted by A 2. in Plate II.] or expanding-air act *upwards* every way from the center to the circumference of the Chaotic mixture; while the *outward* Expanſe [A 1] or the light and ſpirit on the *outſide* of this globe would act *downwards* on and through every part of it. And by theſe two equal and counter-acting agents the *earthy* or *ſolid parts* of the chaotic maſs would be driven together into a *ſpherical ſhell* [C] at a conſiderable diſtance from the center of the earth, and there be ſuſtained; and as the earthy or ſolid parts would be driven together into a cloſe hard ſhell or cruſt, ſo by the ſame action would the *fluids* (ſee p. 41) be permitted to ſlip between on *each* ſide of this cruſt. Thus would the *ſhell* of ſtone

or *the Earth* be formed between *two orbs* of *water*; one orb [B 1.] would cover the *outward* ſurface; the other [B 2.] would cover, or by the force of the expanding air from the center, be preſſed cloſe to, the *inward* ſurface of the earth. Such being the ſituation of things, it will now be apparent to every one how the earth was *founded upon* * and formed *between* the *waters*.—And as the ſhell or cruſt of the earth was driven together by the *expanſive* power of the air, and formed between two orbs of water, ſo the *Firmament* acted the part it was commanded *of dividing the waters from the waters*.

And as the Expanſion had this power from the Creator (for He firſt cauſed the motion in the, before, dark ſtagnant air; that motion produced Light; that Light and that Spirit an *Expanſion*, &c.) and as it was now immediately under the influence of its *Maker*, and acted according to his directions; ſo (and to prevent the *Iſraelites* from imagining it to be a God, and not the work of God, as the idolatrous nations did) *Moſes* adds,

And God made *the Firmament*; *and divided the waters which were under the Firmament, from the waters which were above the Firmament.*

This is a further deſcription of things, in order to prevent our miſtaking *where* the *Waters divided*, and *where* the *Airs dividing*, were, and to prepare the reader for what was to follow. The *Expanſe*, as we have ſeen, acted from *above* and from *below*, and by forming the cruſt of the earth in the *midſt* of the waters, ſeparated the waters from the waters; which waters, thus ſeparated, would be in two diſtinct orbs; *one* [B 1.] covering the *outward* ſurface of the earth, which therefore would juſtly be deſignated by *the waters under the* open *Air*, *Heaven*, *Firmament*, or *Expanſion*; in the

* Page 53.

ſame ſenſe as *the hills (Gen.* vii. 19.) are ſaid to be *under the heaven*; and as theſe waters then covered the whole ſurface of the earth, they were more immediately *under the heaven.* And as we have ſeen already, there was a body of *expanding-air* at and round the *center* of the earth, ſo the *waters* [B 2.] that were directly *above* this *inward* Expanſion, i. e. thoſe which were cloſe to the *concave* ſurface of the earth, would properly be denominated *Waters above Air*, *Firmament*, or *Expanſion.*——That there was really a body of expanding-air at and round the center of the earth (on which ſuppoſition the above interpretation depends; and ignorance of this has produced all the difficulty which this part of Scripture has been thought to labour under) is evident, not only from its being aſſerted that the earth was *created* comparatively *hollow*, or filled *only* with *air*; but from the text under conſideration: For (1ſt.) here is expreſs mention made of *two* Expanſes, and the operation of each, as I have ſhewn already, was *on* or *in* this earth. It is allowed by all, that *one* Expanſe acted on the *outward* or *convex* ſurface of the globe; the other therefore muſt be *within*, and act on the *inward* or *concave* ſurface. But (2dly,) had there not been an Expanſion from within, or from *below*, as well as from *above*, there could have been no *ſeparation of waters from the waters*, or *the ſhell of the earth* could *not* have been *formed between the waters*; for had the *outward* Expanſe acted *only*, it would have driven the *ſolid parts* of the terraqueous maſs quite down to the center, in the ſame manner as it now precipitates mud or any earthy ſolid ſubſtances through the waters of the ſea; and in this caſe the earth would have been formed as a *ſolid ball*, or *kernel*, at the center; and all the water would have lain over it in *one united* maſs, in the ſame manner as the atmoſphere at preſent covers the earth. But there was a *Separation* of *waters from the waters*, *by the intervening*

ſhell of the earth, formed by the expanſive power of the Air; and therefore there was an *inward Expanſion* as well as an *outward.*———And as there was *an orb of water*, ſeparated from the *terraqueous maſs*, by this *inward Expanſion*, ſo it could be no otherwiſe diſtinguiſhed than by being called (as it is) *Waters above the Firmament*, or *Expanſion.*—But then a queſtion may be aſked, How could this inward orb of water be ſuſtained, or kept cloſe to the inward or concave ſurface of the earth, and ſo be prevented from falling down to the center? —I anſwer, by the ſame means that the outward orb of water was kept cloſe to the outward or convex ſurface of the earth, or as the ſea is at preſent prevented from falling down through the clouds (*eſpecially* at our *antipodes*, to ſpeak as the vulgar would moſt naturally think) or from returning again to cover the earth (though the earth be revolved ſo immenſely ſwift on its axis)—all which is effected by the *compreſſure* of the *Expanſion*, or the *Air* acting on the *outward* ſurface of it; which Agent might as well keep waters *above* it as *under* it; for there is no ſuch thing as *innate gravity*, or *natural* tendencies of bodies to centers, &c. *All matter*, as our modern philoſophers allow, is *dead*, *inert*, *inactive*, quite *indifferent* to *every kind* of *motion*; and therefore cannot poſſibly *move*, unleſs *impelled*; and *which way ſoever* it is *impelled*, either upwards, downwards, or ſideways, *thither* it muſt *move*. Sir *Iſaac Newton* in ſeveral parts of his writings ſpeaks of *Gravity* as being no more than *Impulſe*, and attributes the *Cauſe* of it to an *ætherial medium*, or *ſubtile fluid*[u]; which way ſoever therefore ſuch a fluid impells, that way muſt motion be. And with regard to *up* and *down*, or *above* and *below*, every child in philoſophy knows that they are only *relative* terms, reſpecting our ſitua-

[u] *Princ. Mat.* 3d. Edit. p. 147. 188. 488. *Optics* p. 323.—29.

tion upon the earth. No ſuch difference can properly be applied to the *inanimate* agents; which muſt of courſe act uniformly the ſame, *up* or *down*, juſt as they are placed, and have room to exert their power: And as at this time they were differently *ſituated* from what they are now;—there being a body of expanding-air at the center, as well as one upon the circumference of the earth, ſo each would produce the ſame effect on the ſide it acted againſt, i. e. *ſeparate* and *ſupport* an orb of water.

'WE are now come to the *Moſaic* account of the *third* day's work;

And God ſaid, Let the waters under the heaven be gathered together into one place, and let the dry land appear: and it was ſo. And God called the dry land Earth, and the gathering together of the waters called he Seas: and God ſaw that it was good. And God ſaid, Let the earth bring forth graſs, the herb yielding ſeed, and the fruit-tree yielding fruit after its kind, &c. &c.

THE former part of which words his Lp. thus interprets, p. 64. 'the next conſequence that would ariſe 'from the creation of the world, as hitherto deſcribed, 'would be ſome other of thoſe effects, which would 'ariſe from the motion of the earth round its own axis; 'which beſide the formation of night and day, would 'likewiſe produce this effect, that the waters, which 'before were equally diſperſed over the face of the 'whole earth, would immediately begin to quit the poles, 'and would alſo run towards the equator or the middle 'of the earth. Becauſe, as I before ſhewed, all circular 'motion, ariſing from a conteſt between the centripetal and the centrifugal force, the particles of water 'being in a fluid ſtate, would be agitated by their 'centrifugal force to fly off from the center as far as

'poſſible (like a ſtone in a ſling, which, for example, 'when once put in motion, always keeps the ſtring, 'as long as it is therein detained, at its utmoſt 'ſtretch). But not being able to overcome the at-'tractive or centripetal force, at the equator, the 'waters would be there detained, like the ſtone in 'the ſling, at the utmoſt diſtance they could move 'to from the center of the earth. And by bringing 'ſome of the mud along with them, would render 'the earth of a cycloidical form, that is, would make 'it ſomething wider at the equator, than under the 'poles. And by gathering themſelves there, in that '*one place*, as it were in a heap, the earth all the way 'from the poles to the edge of the waters under the 'equator, would begin to appear, and at length be-'come firm and dry ground. By which means this 'terraqueous globe would be divided into three parts, 'two of which would be earth, and would be ſepa-'rated from one another by a belt of waters, under 'the equator.'

On which alſo I have a few remarks to make, before I endeavour to ſettle the true meaning of the text itſelf.—*Firſt*,—I would obſerve, there is no mention made in the text of the waters being gathered together or ſtanding *as it were in a heap*; which phraſe occurs three or four times in Scripture; and had ſuch an *elevation* of the waters been intended here, in all probability it would have been uſed.—*Secondly*,—His Lp. ſuppoſes (and juſtly) that before the effect, here related, took place, the whole ſurface of the earth was covered with water, 'the waters, as he ſays, were *equally diſ-'perſed* over the face of the whole earth;' and therefore equally *united*, for the word *diſperſed* in this place muſt include that meaning, tho' to an inattentive reader it may convey another idea, and ſerve a little our Au-'thor's turn of arguing. If therefore the waters were *equally united* over the face of the whole earth, and ſo

of courſe in *one place*, MAQUM AHAD, in *one united place* or *place of union*, I cannot ſee how collecting of them together *in a heap*, would make them *more united*; for water (as the well-known *Florentine experiment* proved) when the parts of it touch one another, cannot be compreſſed into a *cloſer union*.—*Thirdly*,—His Lp. takes no notice of the *formation* of *rivers* in this place, which he yet makes the *conſequence* of this collection of the waters under the equator, I ſhall therefore ſupply that deficiency, by giving the reader his account, that we may ſee how conſiſtent he is with himſelf, p. 82. 'Which channels [i. e. the channels of the rivers in 'the ante-diluvian earth] may have been originally 'formed by the water of the ſea, when upon the firſt 'diurnal motion of this earth round its own axis, the 'waters flew from the Poles towards the Equator; 'where they would carry ſome of the looſe mud along 'with them, and would of conſequence leave vacant 'interſtices between the more firm and ſolid parts of 'the earth, according to the original deſignation of 'the great Author of nature; which might afterwards 'ſerve as channels for the ſubſequent rivers to flow in, 'and which ſhould all run in one direction, that is, 'towards the Equator.' From whence I think it muſt follow, that collecting *part* of the *waters* (which before in *one united* body covered the *whole face* of the earth) under the equator, and leaving the remaining *part* in *various* and *diſtinct* channels, on *each* ſide of the equator (according to our Author's engraved plan, *Plate* 3d.) would have been ſo far from *gathering the waters together* into *one place*, that it would have been *dividing* or *ſeparating* them into *many*.—*Fourthly*,—As, according to his Lp's hypotheſis, all the rivers in the ante-diluvian earth would run from the Poles to the Equator, and in their current thither would tear along with them all that quantity of earth which they excavated for their own channels, ſo the

earth, not only in reſpect of its Fluids or the Water, but even in regard to its Solids or the earthy parts, would be raiſed *higher* at the Equator than at the Poles; and yet he ſays, that the waters would run from the Poles to the Equator, i. e. from the *lower* to the *higher* ground; which higher ground was alſo *before* covered *over* with water: Whereas according to the preſent laws of nature (which he ſays were the ſame then as they are now) water does not move even upon an *horizontal* plane, much leſs *aſcend* upon an *inclined* one.—But (5thly) what has introduced all this falſe reaſoning is, I believe, the modern ſuppoſition, that there are ſuch *Forces* in nature, or on and in the earth, as the *centripetal* and *centrifugal*. By the *centripetal*, meaning (according to our Author's definition p. 64) 'the attractive force, or that force whereby any body 'is drawn towards the center; by the *centrifugal*,— 'that Force whereby every body, when moved in a 'circle attempts to fly off in a direction at right 'angles to the attraction,' or, as the word *centrifugal* more properly means (and as this force is more generally defined)—'whereby every body moved in a 'circle endeavours to fly off or recede from the center 'of its motion.' Now ſuppoſing the earth to have been modulated and affected in its form and motion, by two ſuch forces as theſe, the above manner of arguing might have ſome appearance of ſolidity and truth. 'For the greater eaſe and clearneſs (to uſe the words of *Dr. Keil*, on this article)* let us ſuppoſe the 'matter of the *earth* firſt to have been *fluid*. If this 'matter had no centrifugal force, it would ſettle it-

* I choſe to examine this gentleman's opinion, becauſe he has expreſſed himſelf clearer on the ſubject than any other I know of, and becauſe he is univerſally eſteemed a great *Mathematician*.— For the quotation ſee *his Examination* of Dr. BURNET's *Reflections on the Theory of the Earth*, p. 276.

'ſelf into an uniform ſmooth (tho' ſpherical) ſurface; 'but the earth being turn'd round its axis, and all the 'parts of it by this rotation acquiring a centrifugal 'force, and thoſe at the equator having a ſtronger 'force to recede from their axis than thoſe towards 'the Poles; it is evident, that the fluid at the equator 'would riſe higher than That towards the poles, and 'the fluid would ſettle itſelf into a *broad figure*; as is 'here repreſented [Fig. 16. Plate viii. *] where Æ Q 'repreſents the diameter of the equator, P P its axis. 'Now this being the figure which ariſes from the force 'of gravity joined with the centrifugal force, it is 'evident, that as long as thoſe two cauſes continue 'to act, this figure will remain the ſame, and the 'fluid will not alter its poſition nor deſcend from Æ '[the Equator] to P [the Pole]; but that cauſe which 'firſt brought it into ſuch a poſture, will always pre-'ſerve it in the ſame.———Let us next ſuppoſe this 'fluid Spheroid to be changed into a *ſolid* one, all ex-'cept one channel extended from Æ to P, and as 'deep as you pleaſe: The fluid in this channel having 'the ſame forces to act upon it, according to the ſame 'direction, and in the ſame manner, will ſtill keep 'the ſame poſition, without ever changing its figure, 'and every part will remain in the ſame place that it 'was in before: it being indifferent to the fluid in the 'channel Æ P, whether the matter next it be fluid 'or not fluid, ſolid or not ſolid.' If ſo, I reply, that water, under the equator, even upon a deſcent, ought not to deſcend; for if the *centrifugal* force *there* is ſo ſtrong as to raiſe the *earth*, even the *ſolid parts* of it, as the Dr. ſuppoſes, into a *protuberant* form, water, which is ſo eaſily ſuſceptible of motion (and like all other matter, in itſelf quite indifferent to every kind

* The reader, with a little attention, may eaſily repreſent to himſelf this figure.

of motion, but ready to be moved, either this way or that, according to the greater force) ought to follow the ſame courſe, and be raiſed alſo, or *mount upwards* towards the equator. But unluckily for this ingenious hypotheſis and the whole doctrine of *centripetal* and *centrifugal* forces, there are many rivers near the equator, whoſe currents *run from* it, inclining towards the Poles; nay, ſome which take their riſe on one ſide of the equator, paſs over it, and then deſcend on the other; as any perſon may ſee that will conſult the maps which deſcribe the places that lie between the Tropics. But the Dr. endeavours to reply to this objection, which was firſt made by Dr. *Burnet*, and undertakes to ſhew 'how water may move from the poles to the 'equator;' which it may eaſily do, he ſays, 'by *ſup-* 'poſing the ſurface of the land there to be raiſed higher 'than the ſea, but always inclining to it 'till it meets 'with it in Æ or the Equator.'[1] But how this can poſſibly be *ſuppoſed*, when he had before (upon his *own* principles) proved, that the *land* was *higher* at the *Equator* than at the *Poles*; and aſſerts that it is ſo, *even under water*.[2] And the ſtreights to which the Dr. was driven appear from his manner of expreſſing himſelf, as 'I will next make it appear no paradox, to ſay, 'that water *may* be *made* to run from the Poles to the 'Equator.' But this is not proving that it *does* ſo, or can *poſſibly* ſo run *upon his principles*. And again, 'It is well known, that (*whatever* be the *figure* of the 'earth) water will not run &c.' Whereas he ſhould have proved that water (*ſuppoſing* the *figure* of the earth to be the *ſame* as he makes it, and the *ſame cauſe* which brought it into the ſpheroidical ſhape *ſtill* to *act*) would not run &c. And had the Dr. endeavoured

[1] *Examinat. of the Reflections*, ſee p. 278. [2] 275.

to prove this upon the ſame diagram (as he might or ſhould have done) or upon one of the ſame ſize with that by which he endeavoured to demonſtrate the oblate ſpheroidity of the earth, the fallacy would have been apparent even to the eye; but he forms a new diagram, in which the diameter of the earth at the Equator remains of the *ſame length* as in the firſt figure, and the diameter from Pole to Pole is *much depreſſed* or *ſhortned*, ſo that he had room to raiſe the ground conſiderably at the Poles, and yet without elevating of it above the Equator; but even in this caſe the reader will ſee (by conſulting the figure [a]) that the Dr. could not poſſibly deſcribe (without elevating the Poles at leaſt equal to the Equator) the inclined plane from B to Æ, and therefore is obliged to fall ſhort a little beyond O; as far as which (upon his ſuppoſition) the water might run; but then between O and Æ, or the Equator, there is a *great diſtance*, and all the way upon an *aſcent*; which how the water could ſurmount, I cannot ſee.——And here I may juſt obſerve, that it is very common with philoſophers in this mathematical age to have reſource to their lines and figures when they are preſſed with any difficulty in nature, and endeavour to engage the reader's mind with a deſcription of things upon paper, which, when examined by the lines of nature, appear very different and unlike the reality. Hence *bare Suppoſitions* or *Poſſibilities* have paſſed with ſome for *Facts* and *Realities*, and *certain* and *abſolute Concluſions* been drawn from *mere probable Premiſes*. Whereas, Facts are ſtubborn things, and the laws of nature ſettled and fixed by the hand of the Almighty; which no mathematician can alter: and if he would uſe his ſcience aright, he muſt firſt learn what the laws of nature are, and then he may apply it, but not before; to act otherwiſe, is putting the cart before the horſe. So

[a] Plate viii. fig. 17.

that after all the boaſted cry of *Mathematics*, and the certainty of the demonſtrations therein, they are but the *lag-end* of Philoſophy (according to that ſtated maxim, *ubi deſinit Phyſicus, incipit Mathematicus,*) and can prove nothing if the *philoſophical principles* be *falſe*. —And ſuch I take them to be in the caſe before us; for no one, that I know of, ever yet proved that the earth was *formed* or is *moved* by any ſuch *forces* as the *centripetal* and *centrifugal*; and the inſtances which are brought to confirm this are by no means parallel, nor do they prove that there are any ſuch forces in nature. The circular motio nof a ſtone in a ſling is certainly not cauſed by ſuch; for when the *centrifugal force* ceaſes to act, the ſtone is not drawn by the *centripetal* to the hand, the center of motion, but falls to the earth; and the earth (from what has been ſaid above p. 67.) has no attraction, nor has the ſtone any innate gravity. And 'till the *Newtonians* will ſhew us, that there is a ſtring, or ſome matter or other, by which the earth is tied to the ſun, (and ſo motion cauſed by contact and impulſe) they are not to aſſume ſuch a parallel as this; much leſs, ſuppoſing at the ſame time, as many of them do, that the ſpace between us and the ſun is *void of all matter*, (except ſome few thin exhalations from comets, planets, &c. which they ſuppoſe can only ſerve to retard the motion of the earth, &c.)—— It is evident from the impulſe of bodies downwards to the earth, that the Force which compreſſes the parts of it together, is *ab extra*, or on the outſide of it; and both Scripture and Experiments prove, that the Heavens are the Agents. If therefore the parts of it are kept together, and it is carried in its orbit, (as I have ſhewed above) by a Force acting on the *outſide*, then no inſtances of the motion of bodies revolving on their axes, the cauſe of whoſe motion proceeds *from within* outwards or acts from the center to the circumference, can be applicable to the motion of thoſe which

have the cauſe of their motion on the *outſide*, and which acts downwards to the center. As for example, it does not follow, that becauſe, in twirling a wet mop about upon its axis, the ſtrings thereof are ſtretched outwards, and preſſed towards the middle or equatorial parts, and the water flung from thoſe parts is projected to the greater diſtance,—that therefore the parts of the earth (which is compreſſed *ab extra* on all ſides) ſhould be affected in the ſame manner. No; take the ſame mop and preſs it on the outſide, and its form will be anſwerable to the outward preſſure, and the water will not then fly off. And did any ſuch force affect the earth, as that by which the parts of water are thrown from the mop, we ſhould have very little water upon the earth, or indeed could the earth itſelf long remain a compacted body; the fineſt and moſt diſtant parts of our atmoſphere would be projected firſt into the ſuppoſed free Space beyond them; the groſſer would follow; water would purſue them; then the denſer fluids; and I believe the ſolids would not remain long after. To reply to this, that they will be detained by the *centripetal* Force, is *ſuppoſing*, but *not proving*; but allowing there is ſuch a Force, as well as the *centrifugal*, yet that Force which acts ſtrongeſt muſt prevail, and if it continues to act, muſt be more and more prevalent upon the body it acts on: now the *centrifugal* force is ſuppoſed to act ſtrongeſt at the Equator; and it is alſo aſſerted, that the farther any body is removed from the center of the earth, the leſs is its power of gravity, and the greater is the *centrifugal* force; if ſo, the *Fluids* at leaſt, thoſe parts of the earth which are ſo *eaſily ſeparable* from it, muſt yield to the greater Force, and be carried off. As for thoſe who have endeavoured to prove the *oblate ſpheroidical* ſhape of the earth from obſervations made upon different meaſures of a degree in different latitudes, let any one read their treatiſes, even that of *Maupertius*; and he

will eaſily ſee ſuch a number of difficulties attending the operation, that I believe he will readily confeſs with Dr. Keil himſelf, 'that no obſervations can be 'made ſo nice, and exact, as would be neceſſary to 'determine the point in controverſy.'[b]—The reader will excuſe the length of this ſection (which might be extended much farther, was this a proper place) the importance of the ſubject, and the prevalency of a *wrong* opinion (as I humbly apprehend it is) obliged me to enlarge a little.

But to return, and—*Sixthly*,—endeavour to lay down the true philoſophy of Scripture in the caſe before us. The *Command* (to the Agents, as above[c]) was, *that the waters under the heaven ſhould be gathered together unto one place* (or be *united*) *and the dry-land appear*. Whence it follows, that the waters were before *ſeparated*, or in *two places*. And the immediately preceding deſcription of the ſituation of things ſhews us *where* and *how*. There *were waters under the heaven* or *firmament*, [B 1. in Plate II.] And *there were waters above the heaven* or *firmament*, [B 2.] and the *intervening ſhell* of the earth [C] made the *ſeparation* or *diviſion*. The *waters under the heaven* or open air, (i. e. thoſe which were upon the outward ſurface of the earth, and which prevented the appearance of the dry-ground) were to be gathered together to *thoſe beneath the earth*, which was the *only place* where there were *other* waters. The manner how this was effected may eaſily be conceived. As the matter of the heavens would be more and more melted down by the intenſe fire at the focus of the primæval light, ſo would the ſtrength of the Expanſion be increaſed, in proportion to the quantity of matter melted, and the degree of agitation; and how great its force muſt have been on the third day, may be

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[b] *Exam. of the Reflections*, &c. p. 259.

[c] See pag. 41. 63.

partly gathered from the extent of its ſphere on the fourth, which reached by that time the other *orbs*, and even the *fixed ſtars*, as is evident from verſe 17. The Light and Spirit having ſuch an immenſe ſphere of action, and acting very powerfully near the earth (as is certain from the quick growth of *vegetables*, &c. on this, the *third* day) would preſs ſtrongly upon the outward ſurface of it; and by the continual and new admiſſion of light, through the ſhell, to the central air, the *inward expanſion* would be vaſtly heightened and increaſed (in the manner deſcribed p. 64.) and by this means would be made to act more forcibly againſt the inward or concave ſurface of the earth. This force continuing to act with increaſed vigour, would ſoon crack, cleave, and break the ſhell of the earth in many places, and ſo make room for the waters that covered the outward ſurface to deſcend, or be preſſed down through theſe cracks; and as the inward air went out, the outward orb of waters would ruſh in, and ſupply its place; and ſo be mixed or *united* with *the waters that were beneath the earth.* So that B 1. and B 2. would now be joined, or conſtitute *one ſphere* of water at or rather *round* the center of the earth.[4] And thus by the *waters under the heaven* [B 1.] being *gathered together* to *thoſe* that *were beneath the earth* [B 2.], where was the *one place appointed for them* all, the *dry-land* would of courſe *appear*, and the *Command* be *effected.* [From this tranſaction we may alſo draw another argument in proof of the *inward Expanſe*; for had there not been ſuch a ſpace left within the earth, filled only with matter

[4] For *immediately at* the center there would be a *ball* or *kernel* of terreſtrial matter, formed from what the waters, in their deſcent from the ſurface and paſſage through the ſtrata of the earth, tore off, and carried down with them into the *abyſs*; which abyſs, B 1. and B 2. now joined, repreſent.

that would yield to the preſſure of other matter, and ſhift at its entrance, there would have been no place for the waters to retire to; but there was a place for the waters to retire to, therefore there was ſuch a ſpace as the above-mentioned]. *And God called the* Dry-land [that which was firſt immerſed in the waters, and wholly moiſtened by them, but now prominent above them] EARTH; *and the gathering together* [the whole collection] *of the waters, called he* [under the general name of] SEAS. From the effect here related it is evident, that there is a *vaſt collection* of *waters beneath* the earth; for there was an orb of waters *there* at the firſt diviſion of the waters (ſee p. 65. and B 2. in PLATE II.) which was now much increaſed by the *addition* of *great part* of the waters that before covered the outward ſurface of the earth. This *collection of waters* is called alſo in Scripture the *Abyſs* or *Deep*, and thus remarkably characteriſed *Gen.* xlix. 25. *the Deep that lyeth under*, i. e. the earth: and again, *Deut.* xxxiii. 13. *the Deep that coucheth beneath*; and it is termed in the *ſecond commandment* the *Water under the earth*. From this reſervoir all fountains and rivers receive their ſupplies, as he who formed the earth declares by his inſpired penman *Solomon*, *Eccleſ.* i. 7. *All the rivers run into the Sea*, [the general collection of the waters, part high up, and part beneath the earth] *yet the Sea is not full*, [does not reach the height of, or run over its ſhores]. *Unto the place from whence the rivers came, thither they return again.* The reader may now eaſily ſee where there lies a ſtore of waters abundantly ſufficient for drowning the whole earth, for but *part* of them [*viz.* the orb B 1.] had before covered its whole ſurface, and will now readily perceive the meaning of that grand prelude to the univerſal Deluge, *And the fountains of the* GREAT DEEP *were broken up.* But of this, and other particulars relating to that cataſtrophe, in its place; only let the reader retain in his mind

what has been already ſaid on this, the *third* day's work of the Formation, and we ſhall be under no great difficulty in accounting for the *Deluge*.

THE Earth having been thus drained of its waters, and its ſurface expoſed open to the action of the Heavens, the next requiſite ſtep would be the *furniſhing* and *adorning* it with *plants* and *trees*. Accordingly *God ſaid, Let the earth bring forth graſs, the herb yielding ſeed, and the fruit-tree yielding fruit* AFTER ITS KIND [according to its ſpecies; ſo that *men do not gather figs of thorns, nor of a bramble-buſh gather they grapes*, Luke vi. 44. for *God hath given to every ſeed its own body*, 1 Cor. xv. 38.] *whoſe ſeed is in itſelf, upon the earth; and it was ſo. And the earth brought forth graſs, the herb yielding ſeed after its kind, and the trees yielding fruit*, &c. &c. *And God ſaw that it was good.* From the expreſſion--of the herb *yielding*, or according to the *Hebrew*, *ſeeding ſeed*, and the fruit-tree *yielding*, or according to the *Hebrew*, *making*, *bearing fruit*,--it appears that the *Plants* and *Trees* were formed in their utmoſt perfection and full maturity, replete with *ſeeds* and *fruit* for the production of a new or ſucceſſive crop; as is alſo evident from the prohibition of the *forbidden fruit*.——But in order fully to underſtandthe account of this day's operation, ſome previous conſiderations muſt be taken in. As firſt, the ſuppoſed formation of the *Plants* and *Seeds*, which laſt, contained in them, according to their ſpecies the *ſtamina* of the *future plant*. All this muſt have been the *immediate work* of the *Almighty:* no natural cauſes could produce a *plant* or a *ſeed:* infinite Wiſdom was here requiſite. *Moſes* therefore in his recapitulation of and addition to the hiſtory of the Formation (chap ii. 5.) expreſsly acquaints us, that *God had made every plant of the field* before *it was in the earth, and every herb of the field* before *it grew*. And we are further informed

(ver. 9.) that *it was out of the* Ground [ADAME the *vegetable mould*] *the Lord God had made every tree*, &c. But even yet there was ſomething wanting; there might be *plants* and fully *ſeeded*, and there might be *mould*; but unleſs there was *moiſture* to ſoften and mollify the parts of each, the action of the Heavens could have no effect; and the natural Agents had not yet acted ſo powerfully, as to have exhaled ſuch a quantity of vapours from the earth, which might fall back again in the *ordinary way* of *rain* and *dew*; and therefore we are told, *there went up a miſt* [a moiſt vapour or ſteam] *and watered the whole ſurface of the ground*, the *vegetable mould*. Things being in this ſituation, the action of the *Light* and *Air* upon the *moiſtened ground* would of courſe preſerve the *grown plants* and raiſe *others* from the *ſeeds*, as theſe ſame Agents do at preſent, by opening and widening the veſſels and tubes, impelling the *Water*, pregnant with *vegetable mould*, thro' theſe tubes; ſecreting and fixing ſuch *parts* of the *mould* as are of the *ſame kind* with the *various parts* of the *plant*; and thus by continual ſupplies increaſe it in bulk, and build it up to its perfect form. As this account of Vegetation is confirmed by other paſſages in Scripture, it may not be improper to produce ſome of them.——The prime and chief Agent in Vegetation is *Light*, as *Deut.* xxxiii. 13. *And of Joſeph he ſaid, Bleſſed of the Lord be his land,—for the precious fruits brought forth by the* [light of the] *Sun; and for the precious things thruſt forth by the* [light of the] *Moon.* And 2 *Sam.* xxiii. 4. *The tender graſs ſpringeth out of the earth by the clear ſhining* [of the light] *after rain.* The *materials* of which, and the *ſecondary inſtrument* by which, *Vegetation* conſiſts, are mentioned in the following paſſages; *Job* viii. 11. *Can the ruſh grow without* mire [ſlime or mud?] *Can the flag grow without* water? xiv. 8. *Though the root*

of a tree wax old in the earth, and the ſtock thereof die in the ground: Yet through the ſcent [RIH, the *Reek* or *Steam*] *of* Water *it will bud, and bring forth boughs like a plant.* Pſalm lxv. 9. *Thou, O God, viſiteſt the* earth, *and* watereſt *it.—Thou watereſt the ridges thereof abundantly; thou ſettleſt the furrows thereof: thou makeſt it* ſoft *with ſhowers, thou bleſſeſt the ſpringing* thereof [i. e. of the *earth* or *mould*, which by this means is continually *ſpringing out* or *ſhooting forth* into *ſtalks, leaves, flowers*, &c.] *And thy* Paths [MOGLIC, *thy circulating Agents*, the Heavens] *drop fatneſs.* Again; Hoſea. ii. 21. *I will hear, ſaith the Lord, I will hear the Heavens* [i. e. cauſe the primary Agents to perform their part] *and they ſhall hear the Earth* [perform their office and act upon the earth]; *and the Earth* [thus acted upon by the Heavens] *ſhall hear the corn, and the wine, and the oil* [i. e. ſhall produce its fruits], *and they ſhall hear* [anſwer the wants of] *Jezreel.* So then it is GOD, by his Agents, as above,* that (*Acts* xiv. 17.) *gives us rain and fruitful ſeaſons* or (*Job* xxxviii. 26.) *cauſeth it to rain upon the earth,—to ſatisfy the deſolate and waſte ground, and to cauſe the* bud *of the* tender herb *to* ſpring forth.——If the reader is deſirous of ſeeing this account of Vegetation confirmed by a ſufficient number of *Experiments*, he may peruſe a curious and accurate treatiſe on the ſubject by Dr. *Woodward*, printed in the *Philoſophical Tranſactions*, No. 253. or rather he had better conſult it as reprinted, with additional obſervations, by Mr. *Miller* in his *Gardener's Dictionary*, under the article of *Vegetation*; referring alſo to the ſeveral articles of *Air*, *Earth*, *Rain*, *Sun*, *Vegetable Statics*; under the laſt of which he will find an abſtract of Dr. *Hales*'s book, entitled *Vegetable Statics*; from which I ſhall cite a few lines, as they may greatly ſerve to illuſtrate and confirm what I have already ſaid

* See Page 55.

on this ſubject. The Doctor after having proved that the *Action* of the *Sun's light* is very great at two feet depth in the earth, argues thus, 'Now ſo conſidera-'ble a *heat* of the ſun, at two feet depth, under the 'earth's ſurface, muſt needs have a *ſtrong influence*, 'in *raiſing* the *moiſture* at that and greater depths; 'whereby a very great and continual *wreak* muſt al-'ways be *aſcending*, during the warm ſummer ſeaſon, 'by night as well as day; for the heat at two feet 'depth is nearly the ſame night and day: The *impulſe* 'of the *ſun's beams* giving the *moiſture* of the earth a 'briſk undulating motion, which *watery particles*, 'when ſeparated and rarified by heat, do aſcend in 'the form of *vapour*: And the vigour of warm and 'confined vapour (ſuch as is that which is 1, 2, or 3 'feet deep in the earth) muſt be very conſiderable, ſo 'as to *penetrate* the *roots* with *ſome vigour*; as we may 'reaſonably ſuppoſe, from the *vaſt force* of confined '*vapour* in Æolipiles, in the Digeſter of bones, and 'the Engine to raiſe water by fire.—'Tis therefore 'probable, that the *roots* of trees and plants are thus, 'by *means of the ſun's warmth*, conſtantly irrigated 'with freſh ſupplies of moiſture; which, by the *ſame* '*means*, inſinuates itſelf with *ſome vigour* into the '*roots*."[1] And tho' this account of Vegetation be ſo juſt and natural, and the *Agent* by which it is effected abundantly ſufficient for the work aſſigned; yet the ſame Author (unwilling, I ſuppoſe, to recede from Sir *Iſaac Newton*'s great authority, tho' his own experiments contradict it) talks in other parts of his Treatiſe of *Attraction* and *Suction* as *chief Agents* or *Cauſes* in the *growth* of *Vegetables*; and p. 107. attributes 'the *force* of the *ſap riſing* in the vine in the 'morning to the *energy* of the *root* and *ſtem*;" as if it was poſſible for the *roots* and *ſtems* of plants to act

[1] *Veget. Stat.* Vol. 1. p. 64.

where they are not; they cannot act where they are, unleſs acted upon; much leſs can they act in ſuch a manner as to drive the ſap *upwards* at a diſtance from them, even *contrary* to the ſuppoſed nature of *Attraction*.—Had but antient Heathen Philoſophy (not to mention Scripture) been conſidered by ſome writers on the Subject before us, many miſtakes might have been avoided, 'De Natura autem *(ſays* Cicero *ſpeaking of the antient Philoſophers)* ita dicebant, ut eam 'dividerent in *res duas*: ut *altera* eſſet *efficiens*; *altera* 'autem, quaſi huic ſe præbens, *ea qua efficeretur aliquid.* 'In eo quod efficeret, *vim* eſſe cenſebant; in eo autem, 'quod efficeretur, *materiam quandam:* in utroque tamen utrumque. Neque enim materiam ipſam cohærere potuiſſe, ſi nulla vi contineretur, neque vim ſine aliqua materia: nihil eſt enim quod non alicubi eſſe cogatur: ſed quod ex utroque, id jam *corpus*, et quaſi *qualitatem* quandam nominabant.—'Earum igitur qualitatum ſunt aliæ *principes*, aliæ *ex iis ortæ*: principes ſunt uniuſmodi et ſimplices; ex iis autem ortæ, variæ et quaſi multiformes. Itaque *Aer* quoque, *Ignis*, et *Aqua*, et *Terra*, PRIMA ſunt; EX iis autem ORTÆ *animantium formæ earumque rerum quæ gignuntur e terra.* Ergo illa initia, et ut e Græco vertam, *elementa* dicuntur: e quibus AER et IGNIS *movendi vim habent et efficiendi*: reliquæ partes *accipiendi et patiendi*, AQUAM dico et TERRAM.'[s]—And as

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[s] ACAD. QUÆS. Lib. 1. 'In diſcourſing on *Nature*, they divided 'it into *two* parts; *One* that operated, or formed; the *Other*, that 'yielded itſelf to this, to be formed into ſomething. They reckoned 'that the *Power* [or Force] lies in That which operates, and the '*Matter* [or materials] in That which is operated upon: that there 'is however ſomewhat of both in each: becauſe Matter could not 'cohere if it was not kept together by ſome Power [or Force], neither 'could there be any Force without ſome Matter; for there is nothing which is not forced to be ſomewhere. But what conſiſted of 'both theſe [i. e. the Power and the Matter] they called *Body*.

there is now allowed to be a close analogy in many things between *Plants* and *Animals*, so I dare say, it will appear to those that will duly consider the subject, that the *life* and *growth* of *both* are owing to *one* and *the same Cause*. A Treatise lately printed, by Mr. *Penrose*, entitled, *A Physical Essay on the Animal Œconomy*, will, I trust, upon a diligent perusal, satisfy the reader on this point.

THE *fourth day's operation* is thus recorded. *And God said, Let there be Lights in the firmament of heaven, to divide the day from the night; and let them be for signs, and for seasons, and for days, and for years. And let them be for lights in the firmament of heaven, to give light upon the earth: and it was so.* Then comes the usual claim, that GOD was the *Author* and *Former* of all, *And God made two great Lights, the greater Light to rule the day, and the lesser Light to rule the night, and the Stars* [i. e. as more explicitly decared by the *Psalmist*, CXXXVI. 7. *he made great Lights;—the Sun to rule by day, —the Moon and the Stars to rule by night*]. *And God set them in the firmament of heaven to give light upon the earth, and to rule over the day, and over the night, and to divide the light from the darkness: and God saw that it was good. And the evening and the morning were the fourth day.*

' and as it were, a kind of *concrete* or *modified Substance*.* ——
' Now of these Substances, some are *Principles*; others *Compounds* ' of them. The Principles are uniform and simple; the Compounds ' various and multiform. Thus *Air*, *Fire*, *Water* and *Earth* are ' PRINCIPLES; but *the several forms of animals, and all those things* ' *which are produced out of the earth*, are COMPOUNDS. Therefore ' they called *These* [the Principles] *Elements*; of which AIR and FIRE ' have the power of *moving* and *operating*; but the other two, WA- ' TER and EARTH, only a *passive kind of power of receiving that* ' *operation*, or *being acted on*.

* As CICERO makes *Qualitas* synonimous to *Corpus*, he cannot mean by it a *Quality* in the Abstract; but matter with qualities, a *Concrete*.

ACCORDING to his Lp. the account of this day's operation is little more than a repetition of what had been done on the *firſt*, or on many days *before* the *firſt*. For, the *Lights* here mentioned he ſuppoſes to have been the *Sun*, *Moon*, *Planets* and *Stars*; the *former* of which he aſſerts, was *created* on the *firſt day*[h], when GOD ſaid, *Let there be light, and there was light*; 'the 'Moon, and probably the reſt of the Planets'[i] on this, the *fourth* day; and the *Stars*, which are mentioned *laſt*, he ſays, 'were created millions of ages before this planetary Syſtem.'[k] But can any one imagine, that *Moſes* (even ſuppoſe he was not inſpired) could write in ſuch an *irregular* manner as this; eſpecially in an affair which he intends as a recital of the *regular proceſs* of the *Formation* of this world by the wiſdom and power of the Almighty. But when we conſider that *the Spirit of God* gave this account by his ſervant *Moſes*, and directly aſſerts, that *the Lights in the firmament of heaven* were *all* made on *one*, viz. the *4th day*, with what authority can any perſon preſume to ſay the contrary? ——Had his Lp. but conſulted the Original, the whole would have been clear and evident, and the ſuppoſed tautology between the *fourth* and *firſt day's works* would have vaniſhed. The account of the formation of *light* on the *firſt day* runs thus, *And God ſaid, Let there be light*, AUR, *and there was* Light, AUR. But the account of the fourth day runs thus, *And God ſaid, Let there be* Lights, MART, *in the firmament of heaven*, &c. It is well known to all converſant in the *Hebrew* language, that the letter ם or M prefixed to a noun generally denotes *the inſtrument* or *means of action*; as MEGEN ſignifies a *ſhield* or *inſtrument* by which a perſon *protects*, *defends* himſelf; and is derived from the ſimple verb GEN, to *protect*, *defend*, &c. So in the caſe before us, Firſt, there was ſimply AUR, *light*; and this,

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[h] Page 49, 51, 66. [i] Page 66. [k] Page 67.

as I have ſhewed, *ſupported immediately* by the Power of GOD:[1] But on the *fourth* day, *God made* MART, an *inſtrument* or *inſtruments for the light to act in*, [m] i. e. he now made the *bodies* of the *Sun*, *Moon*, and *Stars*; the action of the firmament having by this time reached the *looſe atoms* of which they conſiſted, and driven them into *ſolid maſſes*; fit in part to retain, and alſo proper to remit and reflect the light, and by the light thus emitted, *to divide the day from the night, and to be for ſigns, and for ſeaſons, and for days, and for years*, &c. &c. and ſo to become (as they are afterwards called, verſe 15.) MAURT an *Inſtrument actually giving light*; the U or VAU in the ſecond place denoting thus much.

THE Earth having been now furniſhed with Vegetables, fit for the nouriſhment of Animals; and the heavenly part of the Macrocoſm perfected, fit for the ſupport of their lives; the next regular act would be, the *formation* of *living Creatures*. Accordingly *God ſaid, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven. And God created great whales, aud every living creature that moveth; which the waters brought forth abundantly after their kind, and every winged fowl after his kind: And God ſaw that it was good. And God bleſſed them, ſaying, Be fruitful and multiply, and fill the waters in the ſea,*

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[1] Page 45, 6.

[m] AINSWORTH, in his *Annotations* on *the five books of Moſes*, tranſlates the word MART '*Lighters*, lightſome bodies, or *inſtruments* that ſhew *light*.' And *Biſhop* ANDREWS *in his Lectures at St. Paul's*, p. 74. on this verſe, makes this obſervation 'OR [or AUR, as above written] is one thing in Hebrew, MAOR is another; *Lumen* is one thing, and *Luminare* is another: *Light* is one thing, and *That which giveth light* is another.'

and let fowl multiply in the earth. And the Evening and the Morning were the fifth Day.

As there is ſuch a cloſe analogy between the growth of *Animals* and *Vegetables* (which I have already obſerved) ſo the reader will ſupply the *account* of the *formation* of one from what has been ſaid concerning the other. The Subſtances of each, and the Agents in both caſes, are the ſame; allowing only for the *ſuperior Principle* in *Animals*.* God therefore muſt firſt have formed, from a mixture of *mud* or *mould* and *water*, the ſeveral ſpecies, and have impregnated them with their particular ſemina; and when thus perfectly made, and endued with proper inſtincts, they would of courſe *encreaſe* and *multiply*.

The *former part* of the *ſixth* day's work is thus recorded, *And God ſaid, Let the earth bring forth the living creature after his kind, cattle and creeping thing, and beaſt of the earth after his kind: And it was ſo. And God made the beaſt of the earth after his kind, and cattle after their kind, and every thing that creepeth upon the earth, after his kind: And God ſaw that it was good.* Which being ſo ſimilar to the hiſtory of the formation of the *fiſh* and *fowl*, the ſame comment may ſerve for both.

Only, I muſt here remark a little on what his L.p. ſays under this article, p. 70. 'The expreſſion '(viz. *after their kind*) here made uſe of by *Moſes*, 'and ſo often repeated by him from the firſt pro-'duction of graſs to the laſt mentioned production 'of animals, is very remarkable; inſiſting ſo much 'all along, that God having created them, made 'them, or appointed them, each to produce *after* '*their kind*. Whence it appears that *Moſes* [i. e. *the* '*Spirit of God* ſpeaking by his ſervant *Moſes*] was

* See Page 43.

'better inſtructed in this branch of natural philoſo-
'phy than even *Ariſtotele* himſelf, with whom it was
'a maxim, that the Corruption of one thing was the
'Generation of another.' I ſuppoſe his Lp. intends this as a compliment to *Moſes*, and eſteems it a very high one; and leſt the reader ſhould think too highly of it, he enters the following *caveat*, 'Not that I 'ſuppoſe *Moſes* was a better natural Philoſopher than '*Ariſtotele*,' i. e. if properly expreſſed, Not that I ſuppoſe that the *Creator*, *Former*, and *Preſerver* of the world could give a better *philoſophical* account of it than *Ariſtotele*, who was ſo very ſtupid and purblind, as to imagine that the *Corruption* of one thing was the *Generation* of another; who denied *that the world was created*;[a] and who was the *corrupter* and *obſtructer* of the *true antient philoſophy*;[b] and yet *Moſes*, ſpeaking by the Spirit of God, or *the Spirit of God* ſpeaking by him (which is the ſame thing) muſt not be eſteem'd equal to this man. 'Although (continues 'our author) it was one of the tenets in the ſchool of '*Paracelſus*, as well as of the modern *Hutchinſonians*, 'that the fundamental principles of all natural phi-'loſophy were to be found in the Scriptures.' I ſuppoſe by his Lordſhip's claſſing the *Hutchinſonians* (as he is pleaſed to call thoſe gentlemen, who admire Mr. *Hutchinſon*'s writings, and where they think he is conſiſtent with Scripture and Nature, there gratefully accept the truth, and where they think he is not, there as readily leave him) with ſome wild writers of the School of *Paracelſus*, he intends to induce the reader, upon *his bare word*, to believe that the diſcoveries which Mr. *Hutchinſon* has made from the *Hebrew*

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[a] *Gale's Court of the Gentiles*, Part 11. Book 11. Ch. iii. Sect. 5.
[b] *Dickinſon's Phyſica vetus et vera*, Cap. 4^tum.

Scriptures and *Experiments upon Nature* are to be reckoned among the *chimæras* and *reveries* of ſuch followers of *Paracelſus*. But as we have already ſeen how far his Lordſhip's word is to be taken in his character of Authors from his *deficient*, nay notoriouſly *falſe* account of but *part* of Dr. *Woodward*'s *Writings*, ſo I hope the reader will ſuſpend his judgment on this point, till he has read for himſelf; eſpecially as his Lp. does not attempt to prove his poſition but in part, viz. with regard to *the School of Paracelſus*; for evidence of which he refers to Ld. *Bacon's Advancement of Learning*, and that without naming either book or page; but the place intended, I apprehend, muſt be near the latter end of the Treatiſe (Vol. II. p. 544. of his Works in folio) where we have the following lines, 'But for the latter [i. e. expounding 'Scripture philoſophically] it hath been extremely ſet 'on foot of late time by the School of *Paracelſus*, 'and ſome others, that have pretended to find the '*Truth* [not the *fundamental principles*; which makes a material difference] of all natural Philoſophy in 'the Scriptures.' And what kind of Truth and manner of Philoſophiſing they purſued, the reader may gueſs from what is ſaid in the ſame paragraph, viz. 'which they received and purſued in imitation 'of the *Rabbins* and *Cabaliſts*.' But how far Mr. *Hutchinſon* was from *imitating* theſe, any one that has but dipt in his works, cannot but know.—This Manner of cenſuring writers or rather a body of men by claſſing them with another ſett, that are confeſſedly ignorant and whimſical, is, one would think, by the frequency of the fact, eſteemed no breach of Charity in this cool, ſedate, *moderate* age; tho' in any other, not quite ſo moderate, i. e. *not quite ſo indifferent* to *Truth* and *Juſtice*, it would be reckoned no leſs a crime than that of *bearing falſe witneſs againſt* our

Neighbour.—But we need not wonder at any liberty, which the Author of the Treatiſe I am examining, may take with *human* writers, when he ſpeaks thus of *Divine*, 'Whereas I do not imagine that *Moſes* 'underſtood the full force and extent of all the 'truths that he uttered: But, like the reſt of the 'Prophets of old, (2 *Pet.* i. 21.) *ſpake as they were* 'moved by the Holy Spirit; ſo did it alſo happen unto 'Moſes, who in *this place* [i. e. where he is ſpeaking 'of things being produced *after their kind*] *did* 'not ſpeak either good or bad of his own mind, but 'what the Lord ſaid unto him, that did he ſpeak.' [Numb. xxiv. 13.] Here *Moſes* dwindles below *Ariſtotele*, and all the honour that was before given him, is taken away; for now he did not underſtand what he ſaid, when he aſſerted that animals were to produce their offspring *after their kind*, i. e. that a lion was not to produce a lamb, or a cow an elephant, but each *after their kind*; which was ſuch a deep myſterious truth, that *Moſes* could not underſtand it, tho' he was told it by God; and yet every child now-a-days, in this *ſelf-illuminated* age, is well acquainted with it.—But the reaſon which is given for *Moſes*'s ignorance in this reſpect is very extraordinary, namely, becauſe *he ſpake as he was moved by the holy Spirit*; which I ſhould have thought the very reaſon for his underſtanding the whole of what he ſaid; elſe I dare ſay the Spirit would never have ſpoken to him or by him; For (ſays St. *Paul* of *propheſying*, 1 *Cor.* xiv. 11.) *If I know not the meaning of the voice, I ſhall be unto him that ſpeaketh a* barbarian; *and he that ſpeaketh, ſhall be a* barbarian *unto me:* Which is ſuch a character, that I hope no *Chriſtian* will think of giving *the Holy Ghoſt*, or even a *Prophet of God*. That the *Truths*, which were revealed to *the holy men of old*, were *well underſtood* by *them*, and the *people* of thoſe times, is evident from *Iſa.* xlv. 18. *Thus ſaith the Lord that created the heavens,*

God himſelf that formed the earth,——I have not ſpoken in ſecret, in a dark place of the earth [as the Heathen Prieſts uſed to deliver their ambiguous, confuſed oracles from holes and caverns]; *I ſaid not unto the Seed of Jacob, Seek ye me in vain: I the Lord ſpeak righteouſneſs, I declare things that are right.* And of *Moſes* in particular it is ſaid, by way of commendation, (*Exod.* xxxiii. 11.) *The Lord ſpake unto him face to face, as a man ſpeaketh unto his friend.* And *Moſes* himſelf thus declares, *Deut.* xxix. 29. *Secret things* [i. e. things which God hath not ſpoken about] *belongeth unto the Lord our God: But thoſe things which* ARE REVEALED *belong unto* US, *and to* OUR CHILDREN FOR EVER; ſo that both *preſent* and *future* generations are included; and the words ſpoken are equally to be underſtood by, and as much concern, one as the other.

THE Heavens having been finiſhed, and the Earth furniſhed with every thing neceſſary for the convenience, eaſe, pleaſure and happineſs of man, *God ſaid, Let us make man in our image, after our likeneſs; and let them have dominion over the fiſh of the ſea, and over the fowl of the air, and over the cattle, and over all the earth, and over every thing that creepeth upon the earth. So God created man in his own image, in the image of God created he him: male and female created he them.——And God ſaw every thing that he had made, and behold it was very good. And the evening and the morning were the ſixth day.*

HIS Lp. ſeems to think it impoſſible to aſſign any reaſon 'Why the Almighty GOD was pleaſed to let the 'Creation [he means the *Formation*] of this world unfold itſelf by degrees, in the *gradual progreſs* of a ſix 'days operation, rather than to produce it *all at once* 'in its full perfection, by one almighty fiat.' Now I apprehend there is no ſuch great difficulty in the caſe as he imagines. That GOD could as eaſily have pro-

duced it in full perfection in a moment, as have taken up *time* in the formation, is certain; but as this was not done, we may juſtly conclude, that the method he took was highly wiſe and proper; and as this method could not be on his own account, it muſt be purſued in condeſcention to man. And truly had not God made the world by degrees, ſtep by ſtep, or *in a regular progreſs*, man could have had *no idea* of the *Divine Architecture*, and would have been deprived of one of the ſtrongeſt barriers againſt Atheiſm and Idolatry. How prone mankind always was to worſhip the *works of* God or the *Creature*, inſtead of God the *Creator*, no one can be ignorant. Now the moſt likely and natural way to prevent this Idolatry, and to manifeſt the Wiſdom, the Power, and the Goodneſs of God in the making of the world (and ſo ſecure, by a rational influence, the obedience of man) would be, to *form* it *by degrees*, and *reveal* a *true account* of the *Formation of it* to the *firſt man*; who, when thus inſtructed, would 'have in the contemplation of the works of the Almighty, a noble ſubject for the exerciſe of his rational 'faculties,--an inexhauſtible ſource of admiration,--'the ſtrongeſt incitements to gratitude,--and the live-'lieſt memento's of obedience, to his Creator; and 'doubtleſs in ſuch exerciſes as theſe, *Adam* was di-'rected to employ himſelf, even in his ſtate of inno-'cence: And indeed in that condition he could have 'had no other duty; for he ſtood related to God, only 'in the capacity of a creature to his Creator.'[q] Add to this, that as the Soul of man is confined in a material body, and obliged to take all *its ideas* of the *Spiritual world* from *matter*; ſo unleſs it is well informed of the nature of this material world, it could not be in a *capacity* to *receive* the knowledge of the *Spiritual*; and

[q] See A *Volume* of *Sermons* by the late Rev. A. S. Catcott. Sermon the 1ſt. on *the Antiquity of obſerving the Sabbath day*. p. 16.

even when thus *far capacitated* or qualified [i. e. by being acquainted with the nature of *the things that are made* in this *lower* Syſtem] it could not *obtain* the knowledge of ſpiritual and immaterial things, unleſs the Author of both worlds (or one delegated by him) was to point out what objects in the one, reſembled things in the other, or what were *emblems* here upon earth, of *Realities* above in heaven. Hence it is that throughout the whole Bible there is not one *immaterial*, a *mere metaphyſical idea* propoſed to the apprehenſion of man; God very well knowing that he could not receive ſuch; however ſome men may think they can; but all the ideas therein laid down are taken from *ſenſible* and *material objects:* whence alſo it is plain, that this world, like the *Tabernacle* of old, was ſo framed and conſtituted as to be *the pattern of heavenly things.*[r] Such then being the ſtate of man, and ſuch the deſign of God in framing this world, it could not but be, that he would inſtruct his firſt pupil *Adam*, in every thing neceſſary to be known therefrom, or open to him a *clear view* of *both worlds.* So that the firſt man muſt have been one of the greateſt Philoſophers and Divines that ever appeared upon the earth; and the knowledge he received from his gracious preceptor, he doubtleſs would convey to his children, and they to theirs, &c. Hence all true knowledge among the Heathens; and hence it is, that the higher we go in antiquity, the purer are the ſtreams of it.

THUS *the Heavens and the Earth were finiſhed, and all the hoſt of them. And on the ſeventh day God ended all his work which he had made; and he reſted on the ſeventh day from all his work which he had made. And God bleſſed the ſeventh day and ſanctified it: becauſe that in it he had reſted from all his work, which God created and made.*

[r] Heb. viii. 5.

'God having (ſays his Lp. p. 73.) in compaſſion to 'the *infirmity* of our nature, which requireth *reſt*, ſet 'himſelf as a pattern to mankind, that they may on 'the *ſeventh* day reſt alſo from their labours, &c.' This gives but a very mean idea of the intent of God in inſtituting the Sabbath; and I apprehend a very wrong one; for it is not true even in relation to man. I never knew that men were ſo tired of purſuing their ordinary callings during the ſix days allowed for work, as to need *reſt* on the *ſeventh* merely on account of *wearineſs*; nay, too many ſhew that they can work, as hard, if not harder, on the *Sabbath* than on other days. And had God ordained the *Sabbath*, 'in *com-* 'paſſion to the *infirmity* of our Nature as requiring 'Reſt,' he probably would have inſtituted it at the *evening* or cloſe of the *ſixth* day, and commanded it ſhould have been kept *every night*, when the infirmity of the body calleth for reſt, and not upon *every ſeventh day*, when the refreſhment of the preceeding night ſufficiently invigorates the body for the exerciſe of the future day. But what led our Author into this miſtake was, I believe, his not attending to the meaning of the word *Reſt* [SABATH, whence comes the *engliſh Sabbath*] which is not oppoſed to *wearineſs* but to *work* (as an antient Divine obſerves); for God could not be weary of his work, *the everlaſting God, the Creator of the ends of the earth fainteth not, nor is weary*, ſays the Prophet.[a] And the word *Reſt* denotes only a *ceſſation* from *acting*, a leaving off working; ſo God on *the ſeventh day* RESTED, *ceaſed* from *operating*, did not work any more, but *entered into his Reſt*, to ſignify, that man, after he had *worked* his *ſhort time*, his *ſix days*, upon earth, ſhould enter into his *heavenly*

[a] *Eſai.* xl. 28.

or *eternal* reſt. For, as the Apoſtle ſays, [a] *There remaineth therefore a* REST [i. e. another Reſt, beſides *that* of the *Sabbath*, or *that* which the children of *Iſrael* enjoyed in the land of *Canaan*, after their toilſome paſſage through the *Wilderneſs* or the *World*] *to the people of God* [the *Elect*, the *Iſrael* of all nations]. *For he that is entered into his reſt, he alſo hath* ceaſed *from his own works, as God did from his, let us therefore* labour *to enter into That* [heavenly] *Reſt*. This was the chief intent of the Sabbath, this the grand leſſon it was to teach *Adam*, 'to look upon his 'continuance in this world, as a ſtate *ſhort of per-* 'fection; and direct him to look forward to that fu- 'ture ſtate, which ſhould commence, when the *great* 'week, the time of this world's duration [probably, according to that antient tradition among the *Jews*, the *ſix thouſandth year*; that *as one day is with the Lord as a thouſand years and a thouſand years as one day*, ſo proportionably the ſame ſpace of time might be expended in the *duration* of the world as there was in the *Formation*: which may be the reaſon, why it pleaſed GOD to take up juſt *ſix days* in *forming* it] ſhould be conſummated; a ſtate where there 'ſhould be *fulneſs* [SABO, a *ſeventh*, the ſame word in the 'Hebrew language emphatically denoting both *ſeventh* 'and *fulneſs*] *perfection*, *ſaturity of happineſs*, or to 'ſpeak in the words of the latter Scriptures (*Pſalm* 'xvi. 11.) where *in the preſence of God ſhould be full-* 'neſs [SABO] *of joy, and at his right hand pleaſures for* 'evermore. Hence it was that GOD took ſo much care 'to ſecure both the *ſpiritual meaning* and *outward* 'obſervation of the Sabbath, by ordering ſo many 'ſeventhly revolutions of time, to be kept as *ſacred*; 'as we read of *Sabbaths* of *days*, of *weeks*, of *months*, 'and of *years*, and moſt remarkably, the *grand Ju-*

[a] *Hebr.* iv. 9.

'*bilee* at the end of *ſeven times ſeven years*, when all 'debts were to be diſcharged, all eſtates diſincum-'bered, all perſons in ſervitude to be ſet at liberty; 'an emblem and earneſt of the *great Completion of* '*Completions*, that univerſal deliverance and entrance 'into a ſtate of perfect liberty and happineſs, and 'poſſeſſion of the heavenly inheritance, which ſhall 'commence, when *time ſhall be no more*.'[u] And hence I may add it probably was, that *Moſes* (by divine direction) makes no mention of the *end* of the *ſeventh day* or does not define it by an *evening* and a *morning*, as he had done in relation to the *other ſix* days, which conſiſted of an *intermixture* of *light* and *darkneſs*: but as *This* was to be *one perpetual Day* or conſiſt *wholly* of *light*, no end to be affixed to it, ſo the deſign of the Spirit of GOD was to carry the pious reader's thoughts from this *tranſient ſcene* of things to that *place* and *manſion of the Father*,[w] *where there ſhall be no night, neither any need of the light of the ſun; for the glory of God does enlighten it, and the Lamb is the light thereof, for ever and ever*, Revel. xxi. xxii.

And God bleſſed the ſeventh day, and ſanctified it; becauſe that in it he had reſted from all his work, which God created and made; which laſt words are more juſtly tranſlated in the margin of the Bible, *which God created* TO MAKE, LOSUT, to *act*, to *operate*, to carry on the operations of nature. GOD having created the atoms, of which this ſyſtem conſiſts, of proper ſhapes, ſizes, and in due proportion or quantity, placed and diſpoſed them to anſwer his divine plan; and each being in contact one with the other (as the wheels in a machine) from the center to the circumference, and

[u] *Catcott's Sermons*, p. 14.

[w] Compare this with the Note [y] p. 24.

being put into motion, and that motion continued and directed by the Divine Being himſelf, 'till the whole was moved and compleated,—GOD then *reſted*, ceaſed from acting, or did not exert his immaterial power in creating or forming any thing more; and pronounced all he had done, to be *very good*, i. e. that it would anſwer the end he intended; and ſo left the *Machine*[x] to act of itſelf; the parts thereof being fitly prepared and duly diſpoſed to carry on motion, ſecondary formations, &c. GOD, I ſay, having performed thus much, SABAT, *reſted*; which word participating in its root of ISAB, which ſignifies to *ſit down*, denotes that GOD, after having finiſhed this ſyſtem, *ſat down upon his Throne in Heaven*, as *Lord* and *Preſider* over all things in this world; or as the idea is expreſſed *Pſalm* lxviii. *O ſing praiſes unto the Lord; to Him that* rideth *upon the Heaven of heavens;—extol Him that* rideth *upon the heavens by his name* JAH; i. e. aſcribe SELF-EXISTENCE to Him that gave *exiſtence* to all things and continueth all things in exiſtence; and who—as a Charioteer or Rider holds the reins and governs the

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[x] It is remarkable, that, in the proceſs of the *Formation* as deſcribed in *Geneſis*, it is added, after ſeveral of the principal parts of the Univerſe were compleated and at the end of all, *And it was* SO; which word SO in the Original is CaN, and is the root of the verb CUN, which ſignifies to *machine* or *to diſpoſe and adapt things together in ſuch a manner that they ſhall act mechanically*; and denotes that the *Univerſe* was regularly formed into a *Machine*. And, the Syſtem of the world is ſpoken of under this term in the latter Scriptures, as *Jerem.* x. 12. *He* [Jehovah] *hath eſtabliſhed* [MaCIN, *machined*] *the World by his Wiſdom.* So *Prov.* viii. 27. Wiſdom ſpeaketh thus in reference to the Formation, *When he prepared* [BE-CINO, *when he machined*] *the Heavens, I was there.* And of the *Earth*, *Pſalm* cxix. 90. it is ſaid, *Thou, O Lord, haſt eſtabliſhed* [CUNNaT, *machined*] *the Earth.* The ſame word is applyed, in the ſame Pſalm, verſe 73. to the human Frame, *Thy hands have made me and faſhioned* [ICUNNUNI, *machined*] *me.* The engliſh word *Machine* is certainly derived from the above *Hebrew* MaCIN.

motions of the horſes or agents that draw the chariot,—maintains the government of this world, and when he ſees proper can ſtop or divert the courſe of the natural Agents, and make them act as much, or more, for his glory out of the ordinary way,[y] as by permitting them to execute the ſettled and eſtabliſhed laws of the Univerſe. The reader will indulge me in a few Reflections.

Since it pleaſed God to make this world a *Machine*, or ordain that all natural motion ſhould be carried on by material means, it certainly behoves man to be well acquainted with the Agents God hath eſtabliſhed in matter; eſpecially as the action of matter upon his ſenſes is the foundation of all his knowledge. To diſcover a concatenation of cauſes or trace the action of one part of matter on another, and ſee how juſtly the effects anſwer the force of the agents, affords great entertainment to the mind, and manifeſts the wiſdom of the original Former in a manner infinitely above That of acting by occult qualities or methods incomprehenſible to man. If the parts of the world had not been formed into a ſelf-moving machine, it is impoſſible to conceive how God could have manifeſted his power or ſuperiority over matter, ſo that man might know that matter was not ſelf-exiſtent and independent. But matter being once formed into ſuch a machine, acts conſtantly and uniformly the ſame, and cannot but act ſo; whatever therefore acts otherwiſe, and can ſuſpend or alter the courſe of nature, muſt be *ſuperior* to matter. And if man does not know the real Agents in nature, he will not in many caſes be able to tell when or whether God interpoſes or not, and ſo will not be able to diſtinguiſh between a miracle and a natural action; or at leaſt to

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[y] I ſhall have occaſion to be particular on this article, when I come to ſpeak of the *miracle* of the Deluge.

ſee the propriety of the miracle, eſpecially if the ſupernatural event be brought about by over-ruling the natural Agents. As the machine of the world was compleated *before* the formation of man, and the greateſt natural effects are at preſent produced by agents that are in themſelves *inviſible* (as light and air are; and were wiſely deſigned ſo to be, for if we could ſee them, we ſhould not be able to ſee any thing elſe, as they exiſt between us and every object;) ſo it is the height of preſumption in any man to preſume to tell (without Revelation) *how* the world was *made*, or *what Powers* at preſent maintain the motions therein produced. REVELATION then muſt be the only ſource of true knowledge in natural philoſophy, and this I have endeavoured to purſue in the above comment on the *Scripture account of the* CREATION and FORMATION *of this Syſtem*; which if the reader will re-peruſe, omitting the *controverſial part*, he may more clearly perceive the beauty, order, and connection of the *Moſaic* narration.

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The END *of the* Firſt Part.

☞ The *Second Part* of this Treatiſe, viz. REMARKS *on his Lordſhip's account of* the DELUGE, is nearly finiſhed, and is deſigned to be printed in due time.